

# Bougainville Copper Limited

(Incorporated in Papua New Guinea)

## Annual Report 1981



## **Notice of Meeting**

The Annual General Meeting of Bougainville Copper Limited will be held at 10.00 a.m. on Friday, 16th April, 1982 in the Panguna Cinema, North Solomons Province, PNG.

A separate Notice of Meeting is enclosed. All shareholders are cordially invited to attend.

**Bougainville Copper Limited**  
(Incorporated in Papua New Guinea)

**Registered Office:**  
Panguna, Province of North Solomons,  
Papua New Guinea

**Principal Registered Office  
in Australia:**  
55 Collins Street, Melbourne  
Telephone (03) 658 3333

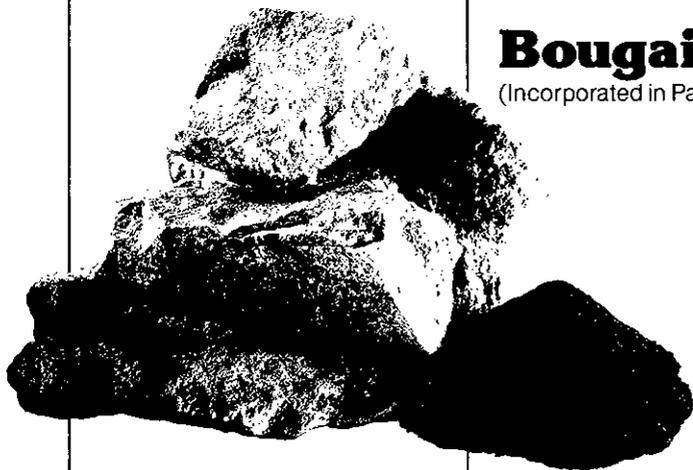
**Share Registers:**  
Victoria: 84 Flinders Lane, Melbourne,  
Telephone (03) 654 4899  
A. C. T.: 78 Northbourne Avenue,  
Canberra City.  
P. N. G.: Panguna, Province of  
North Solomons  
United Kingdom: c/o Central  
Registration Limited, 1 Redcliff Street,  
Bristol

**Stock Exchanges:**  
Listed on the principal exchanges in all  
Australian states and New Zealand

**Auditors:**  
Coopers & Lybrand

**Bankers:**  
Commonwealth Trading Bank  
of Australia  
Bank of America NT & SA  
Papua New Guinea Banking Corporation

**Solicitors:**  
Gadens  
Arthur Robinson & Co.



# Bougainville Copper Limited

(Incorporated in Papua New Guinea)

## Directors

D. C. Vernon (Chairman)  
N. R. Agonia  
Sir Frank Espie, O.B.E.  
R. H. Harding  
P. W. Quodling  
J. T. Ralph

## Alternate Director

J. L. Kekedo

## Officers

P. W. Quodling  
(General Manager)  
J. R. Trezise  
(Assistant General Manager)  
B. J. Drew  
(Executive Manager — Mine)  
K. P. Gilbert  
(Executive Manager —  
Concentrator)  
J. B. Holt  
(Executive Manager —  
Personnel)  
V. P. McCartin  
(Executive Manager —  
Support Services)  
R. N. Prideaux  
(Executive Manager —  
Commercial)  
J. M. Tynan  
(Executive Manager —  
Technical Services)  
J. M. Ferguson  
(Secretary)

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Bougainville Copper Limited operates a large open pit mine at Panguna in the North Solomons Province of Papua New Guinea. It produces concentrate containing copper, gold and silver. Sales are mainly under long term contracts to smelters in Japan, West Germany and Spain.

In 1981 the Company mined 77.6 million tonnes of material. Of this, 37.5 million tonnes of ore was treated to produce 576 000 tonnes of concentrate. This concentrate contained 165 000 tonnes of copper, 16.8 tonnes of gold and 42.4 tonnes of silver and had a gross value of K360 million (of which copper contributed 54% and gold 44%).

The mine commenced production in April 1972 and thus this Annual Report marks the end of a decade of operations. Throughout this period the Company's development and performances have been closely linked with those of Papua New Guinea. In particular the mine's impact upon the country's economy has been considerable.

Since start up total production from the mine has been 1.7 million tonnes of copper, 188 tonnes of gold and 433 tonnes of silver. This production has a value of K2.4 billion which represents 48% of the country's exports. Over the same period payments to the Government in the form of dividends, taxes, etc. amounted to K540 million which represents 22% of the Government's internally generated revenue. Further, the presence of the Company on Bougainville Island has encouraged the development of local business enterprises providing goods and services required for the mine's operations and for the island's residents.

Bougainville Copper is the country's largest industrial employer with a workforce of over 4,000; of these 80% are Papua New Guinea Nationals. In the ten years to 1981 a total of 600 Papua New Guinea citizens have completed their apprenticeships with the Company and an even greater number have attended other training and development courses. The Company's training programme has resulted in considerable progress in the localisation of the Company's employees and has made a sizeable contribution of skilled workers to the Papua New Guinea workforce.

Exploration and development of the Panguna prospect was undertaken by CRA Limited which now holds 53.6% of the share capital of Bougainville Copper Limited. The Papua New Guinea Government and its nominee The Investment Corporation of Papua New Guinea own 20.2% while the remaining 26.2% is in the hands of public shareholders.

*Front cover:  
Two children from a Bougainville school on one of the regular school visits to the mine site. In the coming years Papua New Guinea will continue to provide a high proportion of the mine workforce as they have done during the first 10 years of the Company's operation.*

# 10 Years of Operations

## 1972-1980

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### 1972

The commissioning of plant was completed and commercial production commenced in April. Shipments commenced of concentrate sold under long term contracts to Japan, West Germany and Spain.  
Net earnings for the year were K28 million.

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### 1973

Payment of the first dividend of K11 million to the then holding company and the Papua New Guinea Government from 1972 earnings.  
The ninth ball mill commenced operations.  
Net earnings for the year were K158 million.

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### 1974

Heads of Agreement signed by the Papua New Guinea Government and the Company for the variation of 1967 Bougainville Copper Agreement.

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### 1975

Papua New Guinea declared its independence and became the 35th member of the Commonwealth. It also introduced its own currency — the kina and the toea.  
Taxation payable to the Government from 1974 earnings was K63 million.

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### 1976

The first of the new Euclid R170 truck fleet was commissioned. The Provincial Government of the North Solomons was formed.  
Net earnings for the year were K41 million.

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### 1977

US\$25 million was raised by a Eurobond issue.  
The tenth ball mill was commissioned.  
Copper production since the commencement of operations passed one million tonnes.

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### 1978

A 3 year contract for the sale of copper concentrate was signed with People's Republic of China. Hundredth voyage of Bougainville Maru which was built to carry concentrates to Japanese buyers.  
Concentrate production reached an all time high of 659,000 tonnes for the year.

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### 1979

Copper prices went above US\$1.00/lb for the first time since 1974.  
Gold production since commencement of operations reached 150,000 kilograms.

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### 1980

Gold and silver prices reached unprecedented highs of US\$846/oz and US\$49/oz respectively.  
Payment of the 1979 final dividend of 20 toea per share and 1979 bonus dividend of 10 toea per share.  
Dividend payments since 1972 total K390 million.  
Assets revalued by K300 million.  
Shareholders approved a 2 for 1 bonus share issue and consolidation of 50 toea shares into one kina shares.  
The value of the Company's exports since commencement of commercial production passed K2 billion.  
Copper production since start of operations in 1972 reached 1.5 million tonnes.

# 1981

## January:

Metal prices at US\$88c/lb for copper, US\$599/oz for gold and US\$16/oz for silver were the highest for 1981 as metal prices continued their decline through the year.

## February:

Copper prices fell to US80c/lb being attributable to the economic recession in the Western economies and high interest rates in the United States.

## March:

Excavation works in connection with the eleventh ball mill commenced.

## April:

Company's Annual General Meeting was held at Panguna.

## May:

1980 final dividend of 8 toea per share and 1980 bonus dividend of 4 toea per share were distributed to the shareholders.

PNG domestic interest rates increased by 3.5% p.a. to 12.5% p.a.

US prime interest rates reached 20.5% p.a.

US\$125 million Revolving Credit Facility agreement signed. The funds were required for certain new capital expenditures and additional working capital.

## June:

Half yearly net earnings were K12.7 million.

## July:

A contract for a standby electricity generating gas turbine facility was awarded; completion is scheduled for July 1982.

## August:

Gold price of US\$391/oz was the lowest for year.

## September:

Contract for supply and installation of solar water heaters to Company houses in Arawa was awarded. This is one of the world's largest single contracts for domestic solar heating units.

## October:

The Company's operations were disrupted by road blocks following a breakdown in negotiations between the Provincial and National Governments over revenue sharing; four days production time was lost.

Production record broken for amount of material mined in one week — volume mined was 1.9 million tonnes.

## November:

The 1981 interim dividend of 2 toea per share was distributed to shareholders.

Silver price of US\$8/oz was lowest for the year.

Board approved construction of the twelfth ball mill; completion is due in the middle of 1983.

## December:

Production for year at 576 000 tonnes of concentrate was 13% above 1980.

Copper price of US\$72c/lb was lowest for the year.

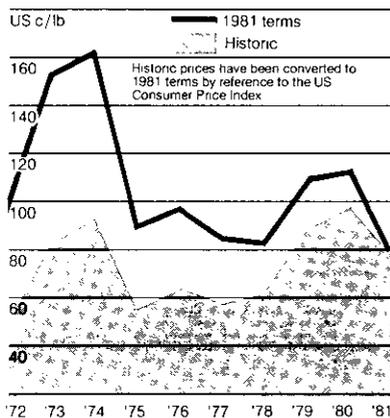
Net earnings for the year were K22.8 million, the lowest since operations commenced.

## The Year in Brief:

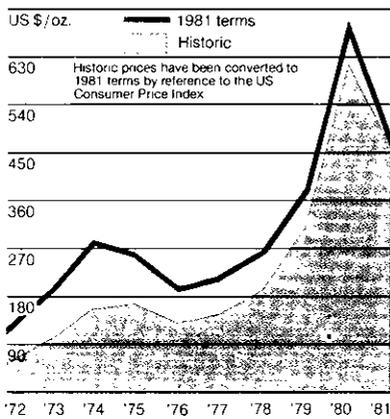
	1981	1980
Production:		
Concentrate (tonnes)	576 389	510 397
Containing copper (tonnes)	165 420	146 813
gold (kilograms)	16 806	14 050
silver (kilograms)	42 388	36 856
Net sales revenue (K'000)	294 969	335 140
Net earnings after tax (K'000)	22 788	71 534
Earnings per share (toea)	5.7	17.8
Shareholders' funds (K'000)	587 239	584 504
Return on shareholders' funds (per cent)	3.9	12.2
Dividends declared:		
gross dividends (K'000)		
— ordinary	20 053	64 170
— bonus (ex retained earnings)	—	16 043
per one kina share (toea)		
— ordinary	5	16
— bonus	—	4
Depreciation (K'000)	43 285	43 841
Government royalties (K'000)	3 686	4 177
Taxation (K'000)	20 560	51 179
Number of employees at 31 December	4 178	4 293

# Chairman's Statement

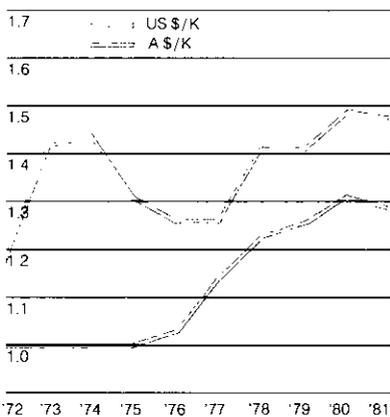
Copper prices 1972-1981



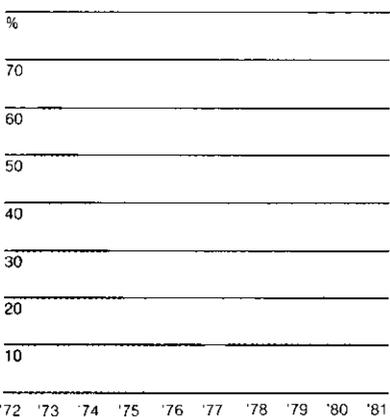
Gold prices 1972-1981



Exchange rates 1972-1981



Return on shareholders' funds 1972-1981



The Company's 1981 net earnings of K22.8 million were K48.7 million below the 1980 result which, as I mentioned last year, was already an inadequate return on shareholders' funds. The return in 1980 was 12.2% but in 1981 it was even lower at 3.9%.

In the business of mining, processing and selling minerals a cyclical performance is to be expected. Unfortunately the tax system under which the Company operates does not take cognizance of this fact. The Company becomes liable to Additional Profits Tax (making the rate 70%) in periods of high profits, even though over a full price cycle profits may average levels which are not above those needed to service the capital in use.

Metal prices are the most critical parameter in determining profitability. Thus, the significant decline in metal prices was the underlying cause of the fall in the Company's earnings. I return to this subject later in my statement.

The other critical factor is unit costs of production and compared with last year these have decreased. Total production expenditure has increased less than the rate of inflation even though concentrate production increased by 13% in (1981). The Company's unit costs compare favourably with the majority of world copper producers but they still remain of concern because of the adverse pressures arising from declining ore grades.

The average grade of ore milled in 1981 was above 1980 for all three metals. However, this improved grade is only a temporary phenomenon since it is expected that grades will reduce as the pit advances. As already announced an eleventh ball mill is being installed to help offset this downward trend in metal production. This project is proceeding to schedule and is expected to be brought on line around the middle of 1982. For the same reason it was decided during the year to construct a twelfth ball mill which will be commissioned in the middle of 1983.

The Company has now completed a major review of its measured ore reserves which has resulted in a significant increase in the tonnage of ore, albeit at somewhat lower average grades. The Company's recoverable proved ore reserves at 1st January 1982 are estimated at 800 million tonnes and this is reported in detail in the "Review of Operations".

The increase in ore reserves coupled with the planned expansion of milling capacity will enable the Company to maintain copper production at around 150 000 tonnes per annum despite falling head grades, without changing the expected life of the mine. Nevertheless exploration outside the current leases is essential if the Company is to maintain an orderly development in the longer term. Progress on such exploration has been delayed while National and Provincial Governments seek to reach agreement on their respective roles and on the sharing of Government revenues from the Company.

The copper price has fallen significantly since its high point in February 1980 of US\$144c/lb. At the start of 1981 the price of copper was US\$86c/lb but for most of the second half of the year copper has remained under US\$80c/lb and in fact reached a low of US\$72c/lb in December. When adjusted for inflation the average copper price in 1981 was the lowest since the 1950's. Early in 1981 a number of forecasters were suggesting an upturn in the copper price before the end of the year. This has not materialised as the economic recession, particularly in the United States, has proved to be more persistent and deeper than many expected.

At price levels ruling at the date of this statement, a large proportion of world copper mines, including Bougainville Copper, are operating at a loss and several mines have recently announced closure or cutback in copper production. To date it is estimated that approximately 200 000 tonnes has been withdrawn from the world's annual copper supply. It is therefore unlikely that prices will remain at current levels for an extended period although the exact timing of any price recovery will depend on general economic factors. Given the low level of the world's copper stocks of approximately two months' consumption, the Company expects a fairly dramatic improvement when the price does recover. It is against this background that the Company has entered into forward contracts for the purchase of copper to effectively delay part of the pricings which are taking place at current levels in existing contracts.

The gold price has also continued to decline, in fact by a more significant margin than for copper. At the beginning of 1981 gold was US\$595/oz. The price fell to a low point of US\$391/oz in August but for the last half of the year traded around US\$400/oz. This fall in price

has been attributed to high US interest rates coupled with a strong US dollar and the general recession leading to reduced inflation rates. This price level persisted despite the political uncertainty that resulted from events in Poland. Since the end of the year the gold price has fallen further. Silver has largely mirrored the performance of gold and closed the year at US\$9/oz compared with an opening price of US\$16/oz. The depressed metal prices in 1981 combined with the Company's significant capital expenditure programme has resulted in a negative cash flow for the year. In anticipation of this the Company negotiated a syndicated loan of US\$125 million (K85 million) early in the year.

At the end of 1981 the Company had in effect drawn down US\$15 million of the new loan. The Company has other standby facilities of a short term nature but should metal prices continue at their present levels for a significant part of 1982, the Company may need to arrange further borrowing facilities to ensure that it can maintain essential capital expenditure. Even with the new US\$125 million loan fully drawn down the Company's debt will be only 14% of total funds.

The Directors have declared a final dividend of three toea per share in addition to the interim dividend of two toea paid in November. The total ordinary dividend of five toea per share represents approximately 88% of the Company's net earnings in 1981. Present indications are that 1982 is unlikely to show any improvement over 1981.

The Papua New Guinea economy in 1981 suffered the adverse impact of the recession in the major world economies. This economic downturn caused commodity prices to decrease, while interest rates, especially in the United States, increased. The low commodity prices received for Papua New Guinea exports, and the continued high level of imports, caused the country's foreign currency reserves to fall. The Government has supplemented these reserves by significant international borrowings which have totalled US\$225 million since December 1980. The servicing of these borrowings, however, places additional strains on the balance of payments situation.

The Company's operations are governed by the Bougainville Copper Agreement as amended in 1974. This provides that the Government and the Company shall meet together every seven years (commencing in 1981) with a view to

considering in good faith whether the Agreement is continuing to operate fairly to each of them and with a view to further discussing in good faith any problems arising from the practical operation of the Agreement. If at any such meeting it is agreed that these difficulties exist, then the two parties shall use their best endeavours to agree upon such changes as may be requisite in that regard. In this context the Government and the Company held several meetings throughout the year and both parties raised a number of topics for discussion.

In 1981 the Provincial Government also started discussions with the National Government and they have raised a number of issues. In essence the Provincial Government is seeking a larger share of the dividends and tax that flow from the Company's operations. Unfortunately no agreement has been reached to date between these two parties and this is having a detrimental effect on the Company's operations.

First, at the beginning of October the Community Governments on Bougainville took unilateral action in order to put pressure on the National Government by setting up road blocks thus preventing the Company employees living in Arawa from reaching work. As a result the Company lost four days of production with a value of approximately K4 million. It should be emphasised that these actions were not directed at the Company but were simply using the Company as a "lever" in order to extract concessions from the National Government.

Second, the lack of agreement between the Provincial and National Governments has prevented any worthwhile progress on certain aspects of the Company's review discussions. As a number of the issues raised by the Company concern the provision of Government services to Bougainville Island, the agreement of the Provincial Government is necessary for any changes to be effected in practice. The Provincial Government, however, has taken the position that it refuses to be involved in any tripartite discussions with the National Government and the Company until its own discussions with the National Government are satisfactorily resolved. As a result the Company's discussions have been held in abeyance. It is anticipated that they will recommence in 1982 but no early conclusion is indicated.

Third, as mentioned earlier, the failure of National and Provincial Governments to reach agreement has delayed the Company's exploration programme. Further exploration within the Company's Prospecting Authorities is conditional on Government consent. While legal authority for this consent lies with the National Government, it is necessary to have the support of the Provincial Government and the Community Governments, representing the landowners involved, before any progress can be made.

Mr. Joe Auna retired from the Board during the year. He has been a Government nominee on the Board for eight years and has made a significant contribution towards the successful operation of the Company.

Since the end of the year Sir Roderick Carnegie has also resigned from the Board. Sir Roderick, who has been a Board member since 1970 played a major role in the early days of the Company's development and the Directors would like to express their thanks to him for his guidance and advice during his years of service.

The Company's most valuable asset is the support and dedication of its workforce. This has been demonstrated through the success of the programme undertaken in 1981 to contain costs and thus make the Company better able to weather the current cyclical downturn in metal prices. The Directors express their thanks to all the Company's employees for this outstanding performance.



D. C. Vernon, Chairman  
9th February, 1982.



D. C. Vernon, Chairman

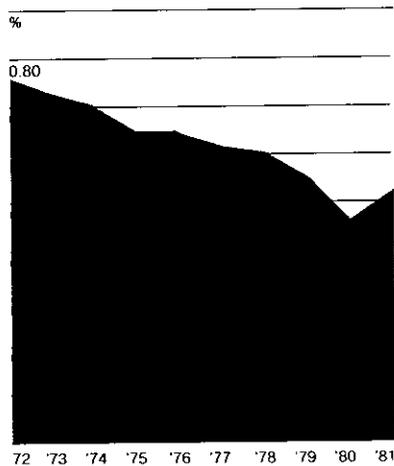
# Review of Operations

## Measured Ore Reserves:

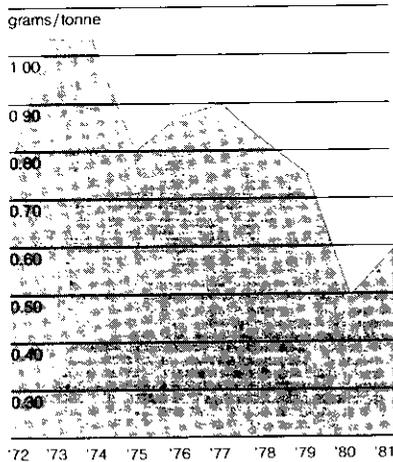
The ore reserves have been recalculated from recently completed geostatistical copper and gold orebody models based on an updated ultimate pit design. On this basis recoverable proved ore reserves at the end of 1981 are estimated at approximately 800 million tonnes averaging 0.40% copper and 0.46 grams of gold per tonne of ore.

The use of geostatistical techniques to re-evaluate copper and gold grades from existing diamond drill data provides a more realistic prediction of the low grade ore with the net result of reducing the amount of waste and allowing some low grade mineralisation to be reclassified as ore.

Copper ore grade 1972-1981



Gold ore grade 1972-1981



## Production:

Production statistics were as follows:

	Year Ended 31/12/81	Year Ended 31/12/80
Material mined (millions of tonnes)		
Ore	37.5	37.6
Waste	40.1	42.2
Waste/Ore ratio	1.07/1	1.12/1
Ore grade		
Copper (per cent)	0.51	0.46
Gold (grams/tonne)	0.59	0.50
Silver (grams/tonne)	1.55	1.47
Concentrate produced (dry tonnes)		
	576 389	510 397
Concentrate grade		
Copper (per cent)	28.7	28.8
Gold (grams/tonne)	29.2	27.5
Silver (grams/tonne)	73.5	72.2
Contained metal in concentrate		
Copper (tonnes)	165 420	146 813
Gold (kilograms)	16 806	14 050
Silver (kilograms)	42 388	36 856

## Mine:

Altogether 37.5 million tonnes of ore and 40.1 million tonnes of waste were mined during the year.

Although average ore grades for 1981 were higher than in the previous year, this is merely a short term fluctuation as the pit becomes wider and deeper. The general trend is for a continued decrease in head grades for several years.

During 1981, ore development continued to be concentrated on the northern and eastern sides of the pit. In anticipation of the increased ore demand that will result from the eleventh and twelfth ball mills, the emphasis in waste stripping was shifted from the east side of the pit where the stripping ratio is well above average, to the north and south edges of the pit.

Availability and performance of major mining equipment continued at high levels.

Investigations, which commenced in 1980, into the possibility of reducing diesel fuel consumption by the haul truck fleet, were continued. These investigations are not expected to achieve significant results in the short term.

Construction of the pit gravity drainage tunnel continued and at year end had advanced to 5 600 metres from the portal. It is expected that the tunnel will be completed in 1982.





**Concentrator:**

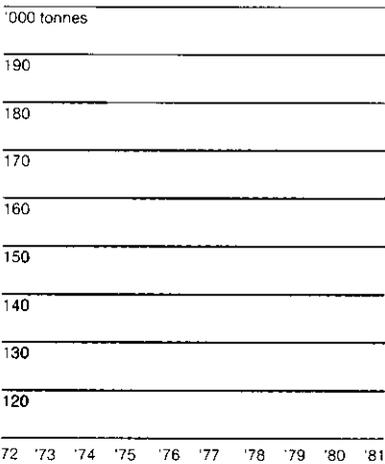
The Concentrator processed 37.5 million tonnes of ore compared to 37.6 million tonnes in 1980. Concentrate production for 1981 was 576 389 tonnes containing 165 420 tonnes of copper, 16 806 kilograms of gold and 42 388 kilograms of silver. These figures are above the corresponding figures for 1980 due primarily to higher head grades and improved metal recoveries.

Plant availabilities and operational performances in 1981 continued at a high level with the crushing plant achieving its best performance since the commencement of operations.

Work is well advanced on the installation of the eleventh ball mill, which is due for completion in the middle of 1982. This will be followed by the installation of a twelfth mill, scheduled for commissioning in the middle of 1983.

Work has commenced on upgrading the cleaner flotation circuit with a view to improving both metallurgical efficiency and maintenance availability. These modifications will be completed in the second half of 1982.

Production of contained copper 1972-1981



**Technical Services:**

River improvement works continued during 1981 along the Kawerong and Jaba Rivers. This included completion of the North Channel extension, concrete lining of the Kawerong Dam, extension and reinforcement of levees and the construction of a bridge to provide access to the northern bank of the Jaba river. Diversion of the Panguna to Jaba public road around the edge of the pit will be completed early in 1982.

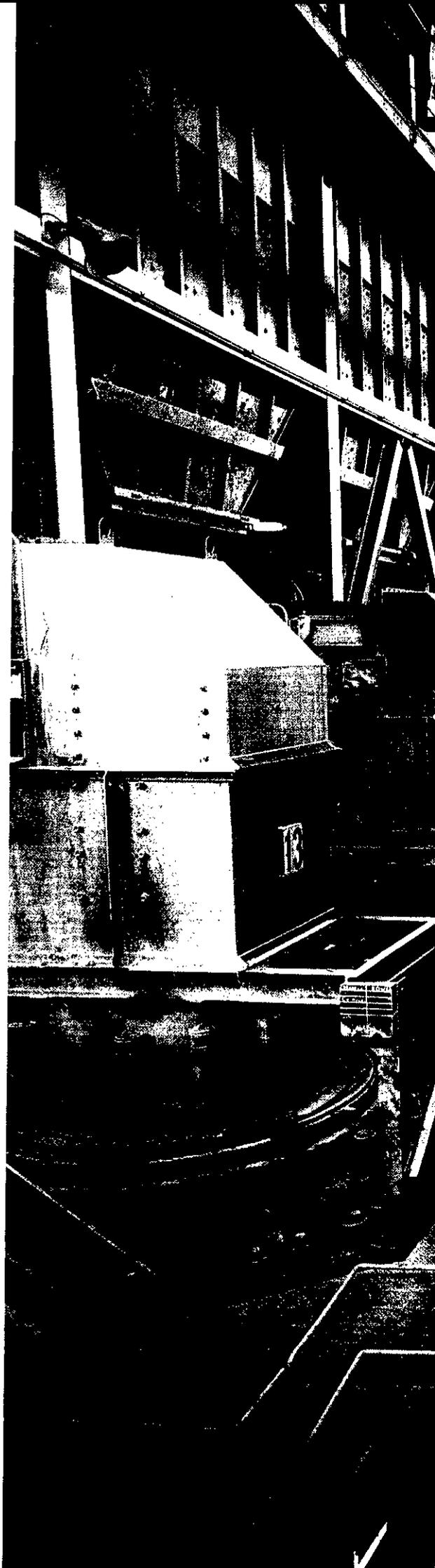
A study of power station options indicated the desirability of installing a standby gas turbine generating plant to avoid production losses following commissioning of the eleventh and twelfth ball mills. Orders have been placed for two industrial gas turbine units and associated equipment. Construction work is in progress and the units will be commissioned in the middle of 1982. The units will initially operate on distillate, but an economic study of conversion to the use of residual fuel oil is in progress.

As an energy conservation measure, solar water heaters have been installed to replace electric water heaters in all Company houses in Arawa.

Additional accommodation completed or under construction includes an extension of Kawerong Haus, sixty additional houses for married staff at Arawa and Birempa, and Kusito Camp for single employees in Panguna.

**Operating Costs:**

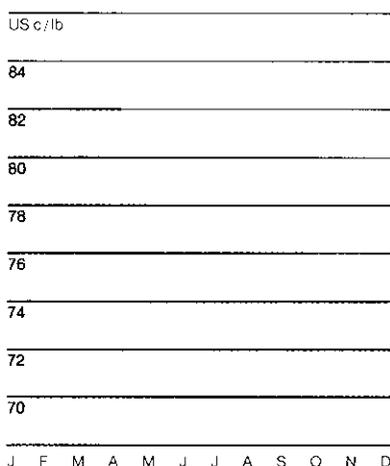
Operating costs for 1981 have increased by only 8% from the levels experienced in 1980 although concentrate production increased by 13% over the same period. This relatively small increase resulted from a major effort by the Company to contain cost increases.



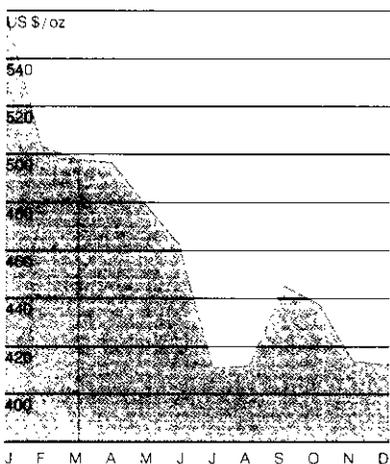


One of the critical areas that will determine the Company's future cost performance is the price of oil products. In 1981, oil products — fuel oil and distillate — represented almost one quarter of the Company's total operating costs. Increases in the import duties announced in the 1982 budget will mean further escalation in the domestic price of oil products. As a consequence the Company is actively considering ways and means of eliminating oil products for certain uses or substituting fuel oil for the higher cost distillate.

Monthly average copper prices 1981



Monthly average gold prices 1981



**Marketing:**

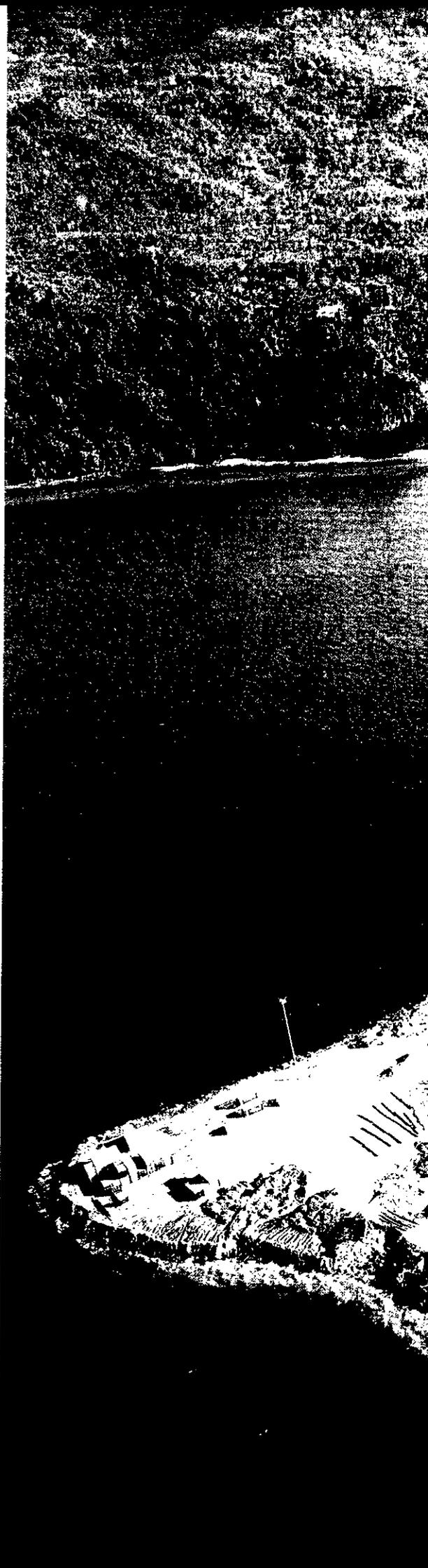
Sales during 1981 totalled 596 167 dry tonnes of concentrate containing 170 733 tonnes of copper, 17 224 kilograms of gold and 43 667 kilograms of silver. Apart from concentrate deliveries under long-term contracts with buyers in Japan, West Germany and Spain, small shipments were also made to China, South Korea and Australia.

During the year, the market for copper concentrate weakened. One of the causes was the closure of a major United States copper smelter in late 1980 and consequent diversion of United States produced concentrate to the international market. Nevertheless, the Company's concentrate continued to be in demand due to its high quality and the reliability of supply.

The copper price continued to fall during 1981. The annual average price was the equivalent of US79c/lb compared with US99c/lb in 1980. From a peak of US88c/lb in January, the market declined to a low of US72c/lb in December. At this level, the copper price is around the lowest level, in real terms, seen in the post-war period. The market weakness resulted from the poor economic performance in the major industrialised economies, high interest rates and increased copper production, particularly in the U.S.A.

The general economic climate also encouraged a further weakening of precious metal prices. Gold declined from a high of US\$599/oz in January to a low of US\$391/oz in August. The annual average price on the London Market was US\$460/oz compared with US\$615/oz in 1980. The silver market closely followed the gold market. The annual average price was US\$11/oz compared with US\$21/oz in 1980.

During 1981 the kina was adjusted down against both the Australian and United States dollars and reached low points of A\$1.27/kina and US\$1.42/kina respectively. The kina did recover during the last quarter but the net result over the year was a depreciation against the two currencies that have the most significant effects on costs and revenues. Overall this movement tends to improve Company profitability. In 1981, however, this effect was far outweighed by the decline in metal prices.





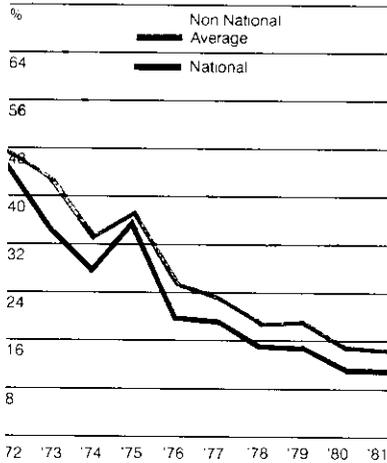
**Finance:**

During 1981 the Company arranged a new long term loan. This is a ten year Revolving Credit Facility for US\$125 million. It is a syndicated loan with 15 banks, jointly managed by the Commonwealth Trading Bank of Australia and the Bank of America. The facility gives considerable flexibility in drawing down and repaying funds to match the Company's cash flow. This enables the Company to keep net loan requirements, and hence interest costs, to a minimum.

The year end borrowings outstanding were K101.1 million compared with K30.3 million at the end of 1980.

The money market in Papua New Guinea experienced significant changes in 1981 as kina interest rates rose in response to credit restrictions and general Government policy. Interest rates are now much more subject to market forces. During 1981 short term domestic interest rates exceeded 18% per annum and at the end of the year were approximately 16% per annum compared with 6% per annum at the end of 1980.

Annual labour turnover 1972-1981



**Personnel:**

At the end of 1981 the Company's total manpower was 4 178 of which 3 377 or 81% were National employees.

The Employment of Non Citizens' Act was fully implemented during 1981. This Act requires the development and approval of a training and localisation programme and the issue of a work permit to each non-National member of the workforce. It is too early to assess what impact, if any, this new system will have on the operations of the Company.

The Staff Development Programme continues to be expanded with the objective of covering all National staff. In 1982 it will be extended further to cover all National employees in trades-based positions. The programme will then cover approximately 1 500 employees. Supplementary to this programme, research has been directed towards an analysis of localisation achievements with specific employees to help identify those factors that have influenced career development.

The formal training effort for 1981 covered 393 employees. These consisted of 296 apprentices, 51 undergraduates and post graduates and 46 post trade tradesmen. 92 apprentices received their indentures in 1981. In addition 271 employees attended management and secretarial training courses on site.

The areas of health care, education and security continue to cause concern. During the year the Company has had to increase its direct involvement in these areas to maintain the minimum standards acceptable to employees. Discussions on these topics with the National and Provincial Governments have commenced but little progress has been achieved to date.





**Environmental:**

The initial phase of a research programme to investigate the long term effects of tailings disposal on the environment was completed.

This has led to the purchase of a dredge for tailings reclamation trials. Scientific research is continuing into aquatic and revegetation aspects associated with tailings disposal.

Areas where lease boundary extensions would be desirable in the Jaba river valley area have been delineated and discussions have commenced with the landowners.

**Exploration:**

The programme of diamond drilling to test the grade of mineralisation below the present planned pit bottom was continued. The grades of ore intersected suggest that it may be possible to deepen the ultimate planned pit by 40 or 50 metres.

The Government restrictions preventing exploration outside the Company's mining lease remained in force.

**Capital Expenditure:**

Capital expenditure for the year totalled K50.1 million.

Work continued on the pit drainage tunnel; total cost to date is K10.3 million. The North Channel extension was completed at a cost of K8.4 million.

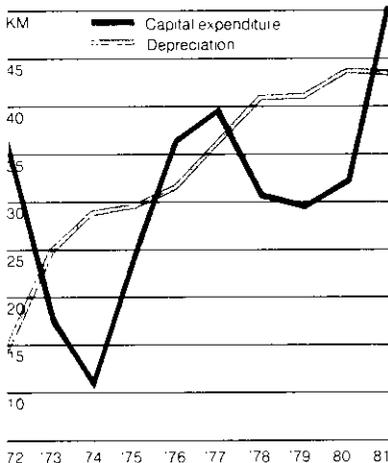
Installation of the eleventh ball mill and associated work has cost K17.5 million to date; this project will now include preparatory work for the twelfth ball mill. Work is proceeding on the installation of a gas turbine facility to supplement power generation; cost so far is K1.6 million.

The concrete tailings flume was replaced by a 140 centimetre steel pipe at a cost of K1.1 million.

Additional housing for both married and single employees is well under way with K3.3 million expended so far. The conversion from electric to solar powered domestic hot water systems cost K1.1 million.

P. W. Quodling, General Manager,  
9th February, 1982.

Capital expenditure & depreciation  
1972-1981



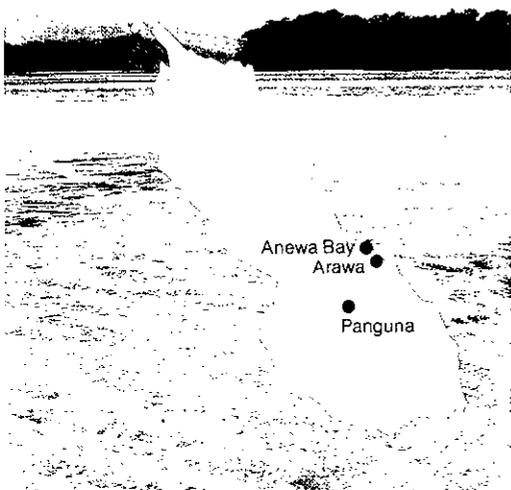
P. W. Quodling, General Manager



Port-mine access road



# Bougainville & Papua New Guinea a decade of development



## Introduction:

The Bougainville Copper mine commenced commercial operations in April 1972. This was a critical time in Papua New Guinea's development and the start up of the mine created opportunities for the Government and the people of Papua New Guinea which otherwise would not have been available. After ten years of operations the effects of the mine on the surrounding community, the North Solomons Province and Papua New Guinea as a whole can be reviewed in perspective.

The original feasibility study for the establishment of the mine involved the co-operation of the Administration together with international buyers of copper concentrate and international lenders. Approximately K25 million was spent on exploration and development work under the guidance of Conzinc Riotinto of Australia Limited (now CRA Limited). The mine's construction, which commenced in 1969, cost more than K400 million and took approximately two and a half years.

## Industry:

When the mine commenced there was no industry on the island apart from handicrafts. Now, in addition to the mine itself which would be considered a significant industrial activity anywhere in the world, a number of satellite industries have started up to provide various services to the Company. In addition, businesses such as travel, banking, newsagents, trading stores and garages have developed to service the mine and its employees.

## Background:

The North Solomons Province is composed of two principal islands — Bougainville and Buka — and several smaller island groups. Bougainville Island is about 200 kilometres long and 50 kilometres wide. The island has a mountainous spine with two active volcanoes and coastal plains along the west coast. The mine is situated on the west of the Crown Prince Range. The climate is tropical; rainfall at the mine averages approximately 4,500 millimetres (200 inches) per annum.

Today the "multiplier effect" associated with the Company's wage bill, a significant portion of which is spent on the island, means that Bougainville Copper continues to underpin the island's economy. Currently net kina wages payable by the Company in Bougainville approximate K23 million per annum.

Before mining commenced on Bougainville, the economy of the island was entirely agricultural and most of the population lived in subsistence communities. Cash cropping by Nationals was small with copra and cocoa plantations mainly owned by expatriate groups. Labour for the plantations was usually drawn from the mainland.

The Bougainville Development Corporation which is 57% owned by the Provincial Government, has been particularly active in promoting businesses on Bougainville through joint ventures and total ownership including steel fabrication, catering services, retail outlets and a commuter airline.

The population was concentrated on the coast and on the fertile south-west plain where fruit and vegetables could be grown. In the 1960's there was little economic integration with the rest of Papua New Guinea.

Since the mine has been developed a smelter/refinery complex has been considered. However, the estimated cost of the complex coupled with the difficulty in finding a use for the acid by-product means that this project is not economically viable.

A small gold mine was discovered in 1930 at Kupei but was abandoned during World War II. There was no industry other than handicrafts. Prior to the mine's construction, roads were basic, consisting mainly of coastal tracks. There was a track from Buin to the south coast, from Buin to Boku and from Loloho through Kieta to about 45 kilometres south of Aropa (the site of the present airport). In general, commodities were moved by small craft to natural ports at Kieta, Wakunai and Sohano where they could be transferred to larger inter-island vessels. Communication facilities and services were geared to the leisurely pace of life; the Australian Administration's expenditure and effort was not a catalyst for rapid change.

## Employment:

At the peak of the mine's construction in 1971 more than 10,000 workers were employed. Currently, manpower is approximately 3,400 Nationals and 800 non-Nationals. It is estimated that the mine has generated another 2,000 jobs in associated public service and private enterprise activities.

As a developing country Papua New Guinea has no substantial base of skilled and semi-skilled labour.

Haul truck driver



Arawa Supermarket



Wholesale warehouse, Arawa



Bougainville Copper training centre



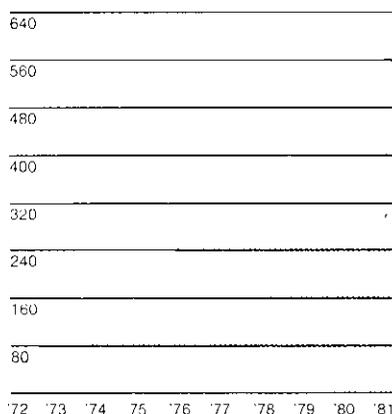
Of the mine's 4,200 employees nearly 700 are undergoing various types of training. Bougainville Copper has implemented a Mine Training Programme which has produced 600 skilled tradesmen over the past ten years. During this period K40 million has been spent by the Company on training. This Programme is recognised internationally as a leading scheme because of both its size and effectiveness.

Although some of the skilled tradesmen who graduate from the Company's Training Programme resign and are a loss to Bougainville Copper, they add to the country's pool of skilled labour.

The Company encouraged the establishment of the Bougainville Mining Workers' Union at the time of commencement of commercial operations. This Union remains active as a vehicle for collective bargaining by award employees. In general, industrial relations have been amicable with consensus and compromise as the key. Recourse to industrial action has been the exception rather than the rule.

The attractiveness of Bougainville Copper for employment opportunities has brought many thousands of Papua New Guinean citizens to Bougainville seeking employment. It is worthwhile recalling that in early 1970 the forecasters predicted that little net migration to Bougainville was expected because of the mine. In 1971 the population of Bougainville was about 78,000 or 3.1% of Papua New Guinea's total. Today the population numbers approximately 130,000 or a little over 4% of the country's total. This has resulted partly from people moving to Bougainville from other parts of Papua New Guinea, but also from

Nationals completing apprenticeships 1972-1981



reduced child mortality and longer life because of improved medical facilities.

**Public Works:**

Associated with the construction of the mine, there was a marked increase in the level of public works on Bougainville Island.

Arawa, which was to become the Provincial capital, was developed jointly by the Government and the Company. Health, education and police services were provided with facilities and personnel to cope with the expanding community. The airport and its access road were upgraded and telecommunication systems were installed to an international standard.

In addition the Company constructed a number of facilities that service the community as well as the mine. For example the Bougainville Copper power station has meant that the towns of Arawa and Panguna are provided with reliable power services. The Company road connecting the port of Anewa Bay with the Panguna mine has become the connecting link for the island's road system, both east-west and north-south. The resultant improvement in mobility has accelerated the provision of services to the community and enhanced economic development in rural areas.

**Agriculture:**

The development of Bougainville Copper has had a significant impact on agriculture on the island. Purchases by the Company have encouraged local production of fruit, vegetables, fish, poultry and meat. In addition there has been a rapid escalation in cash cropping of cocoa and copra as the village society takes advantage of improved access to markets and ports. Increased mobility has heralded a transition from a subsistence to a cash economy and many small businessmen today owe their prosperity to the Port-Mine access road and the feeder road systems that have developed.

**The Physical Environment:**

Disturbance to the physical environment is inevitable with the establishment of an operation the size of Bougainville Copper in a rugged mountainous area.

During the construction phase of the project, from 1969 to 1971, the first significant environmental disturbance occurred. Preparation of the mine site involved the clearing of about 1,200 hectares of tropical rain

forest and the removal of about 18 million cubic metres of volcanic ash and weathered rock. The construction of the Port-Mine access road over a 1,000 metre high mountain range involved removal of a further 13 million cubic metres of material.

The principal ongoing environmental impacts are the disposal of about 100,000 tonnes of tailings per day into the westward flowing Kawerong/Jaba river system and the dumping of an approximately equal quantity of waste rock.

The Company has maintained an active environmental group since 1969. This group consists of scientists and engineers with expertise in the fields of hydrology, marine biology, revegetation and chemistry. The majority of the current environmental research is aimed at obtaining an understanding and thereby minimising the impact of the tailings disposal system on the environment.

The hydrological and hydrographic monitoring by the Company commenced in 1969. The deposition of tailings in the river system and Empress Augusta Bay is monitored regularly using data from bathymetry, sediment sampling and cross section surveys. This information is used in conjunction with meteorological and hydrographic data from stations maintained by the Company.

A marine and fresh water biological research programme was initiated in 1976 to investigate the effects of the operation on the aquatic environment. Research has shown that there are no significant changes as a result of mining operations. Monitoring of these aspects is continuing.

The agronomy research programme was initiated in 1973. Research has demonstrated that revegetation of tailings deposition areas and waste rock dumps is feasible, provided the correct application of fertilizers is maintained. Revegetation of affected areas will begin as soon as the land is no longer required for storage of waste material. It is worth noting that the Port-Mine access road cuts have now recovered to the extent that, for most of the road, the disturbed areas are well vegetated with native species.

This continuing research has led to a better understanding of the physical environment and this understanding has enabled implementation of controls to minimise the mine's environmental impact.

**The Social Environment:**

Mine leases are on custom owned land and it is essential to maintain harmonious relations with traditional landowners.

In the early stages of development the Company enlisted the services of anthropologists and sociologists in order to gain a better appreciation of the village culture. This has enhanced the understanding of traditional values and a group of community liaison officers continue to monitor the effect of Company operations on adjacent villages.

In some cases villages were relocated to positions less affected by mining operations. In all cases compensation is paid for land occupancy, physical disturbance and disruption to traditional bush and fishing rights. Compensation payments, which are currently about K1 million per year, have played a major role in accelerating the transition to a cash economy in the vicinity of the mine.

**Panguna Development Foundation:**

The Panguna Development Foundation Limited (PDF) is a Company incorporated by guarantee. The main asset of PDF and its principal source of income is 3,600,000 shares in Bougainville Copper. PDF was established as a separate corporate entity with the proviso that its income and property would be applied solely for the benefit of the Papua New Guinea community. Thus no profit from the operations of PDF or its subsidiary companies can flow on to CRA or Bougainville Copper.

Aided by an initial grant of K2.9 million from Bougainville Copper, PDF has now established a wholesale and retail trading complex to help meet the requirements of the community. Once self-sufficiency had been achieved in the Arawa store steps were taken to offer Bougainvilleans shares in the operating company set up to run this store. It is planned to extend this local participation to include all of the PDF trading activities.

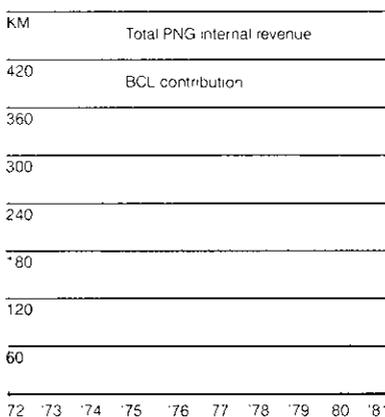
In 1979 the North Solomons Medical Foundation was established with a view to promoting medical services in the community. Currently PDF is directing attention to agricultural development.

**Bougainville Copper and Papua New Guinea:**

The Papua New Guinea economy is heavily dependent on Bougainville Copper. Payments to the Government arise through corporate taxation, dividends, personal income tax, royalties, customs duties and withholding tax. These payments, in a country with a narrow tax base, represent a major source of internal revenue.

In terms of the balance of payments, copper concentrate, which contains copper, gold and silver, is the country's major export. Since production commenced, the kina value of concentrate exports has totalled K2.4 billion or approximately 48% of the Country's total exports during that period. The export of commodities has been the cornerstone on which the Government's hard kina policy has been founded. This has been a key factor in containing inflation to levels that are acceptable in an open economy such as that of Papua New Guinea.

PNG internal revenue 1972-1981



As well as the initial expenditure during construction, Bougainville Copper has been a significant investor over the past ten years. Capital expenditure since start up has amounted to approximately K300 million. Approximately half of this has been funded by retained earnings which totalled K155 million at the end of 1981 and is an expression of the Company's confidence in the future of Papua New Guinea.

**Bougainville Copper Internationally:**

One of the important indirect contributions made by the Company is that it maintains important trade links between Papua New Guinea and the rest of the world. Further, the Company has been a major international borrower since its early days and its association with the

international financial community has added to the country's sound reputation in world financial markets.

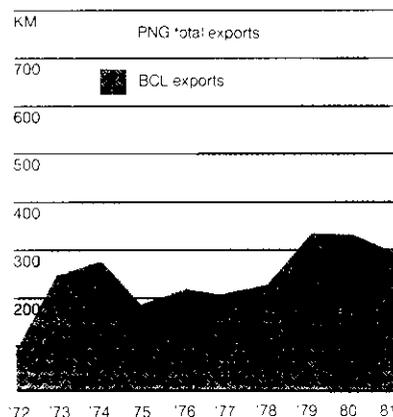
**Summary:**

After ten years the results of mining have clearly given benefit to both the shareholders and the nation.

Two new towns have been constructed as well as one of the largest ports in Papua New Guinea. In addition, many roads and bridges have been built, in particular the road from the port to the mine. The electricity produced by the Company constructed and operated power station is the most reliable in the country.

The economic benefits from the mine's operation to both the country and the North Solomons Province have been considerable. It has contributed K540 million in dividends and taxes to the Government; this represents 22% of the Government's internally generated revenue over this period. Exports generated by the mine are currently of the order of K300 million per annum. The North Solomons Province itself is one of the most prosperous areas within Papua New Guinea largely as a result of the mine's operations.

PNG exports 1972-1981



The Company's presence has been responsible for the development of significant locally owned and managed business enterprises.

It is true that the mine has had an impact upon the environment. The Company, however, has devoted considerable resources to ensuring that any effects are minimised and are kept within acceptable limits.

The Company believes that over the past ten years the development of mining operations on Bougainville has contributed significantly to the economic success of Papua New Guinea.

# Statement of Value Added

A country's economy is largely made up of the activities of employers and employees and the contribution they make to that economy is known as the Value Added.

The conventional earnings statement does not reflect the contribution that Bougainville Copper makes to Papua New Guinea's economy. This contribution to the country's Gross National Product is represented by the sales generated during the year less the cost of goods and services brought in from outside the Company.

The following statement shows the contribution made by the Company and its employees during the last two years. The total Value Added was distributed to employees, government, shareholders and lenders of capital, with part being retained for future use within the Company.

	1981 K mill.	1980 K mill.
<b>Value added</b>		
Sales made to external customers	295.0	335.1
Less: Materials and services brought in from outside the Company	<u>150.9</u>	<u>125.9</u>
	144.1	209.2
Add: Other income	<u>2.5</u>	<u>6.1</u>
Total Value Added available for distribution	<u>146.6</u>	<u>215.3</u>
<b>Distribution</b>		
Wages, salaries and benefits to EMPLOYEES	46.7	41.1
Taxation and royalties to GOVERNMENT	24.2	55.4
To PROVIDERS OF CAPITAL		
Dividends to shareholders	20.1	64.2
Interest to lenders	9.6	3.5
RETAINED in business to provide for asset replacement, expansion and protection of the Company and its employees in less favourable times.		
Depreciation	43.3	43.8
Retained earnings	<u>2.7</u>	<u>7.3</u>
Total Value Added distributed	<u>146.6</u>	<u>215.3</u>

Sales & other income for the year was K297.5m.

— Less materials & services K150.9m.

= Equals total value added K146.6m.

Providers of capital K29.7m.

Employees K46.7m.

Retained in business K46.0m.

Government K24.2m.

And this is how total value added was made up

K150.9m.

# Simplified Financial Statements

Bougainville Copper Limited

Income: K297m.

## Earnings Statement

Expenses K297M.

Sales and other income  
K297m.

Depreciation  
K43m.

Taxation  
& royalties  
K24m.

Cost of sales  
K207m.

Net earnings  
K23m

Funds employed: K760m.

## Balance Sheet

Assets K760M.

Shareholders' funds  
K587m.

Net investment  
in property, plant &  
equipment  
K611m.

Borrowings  
K103m.

Dividends  
payable  
K12m.

Amount owed  
by debtors  
K89m.

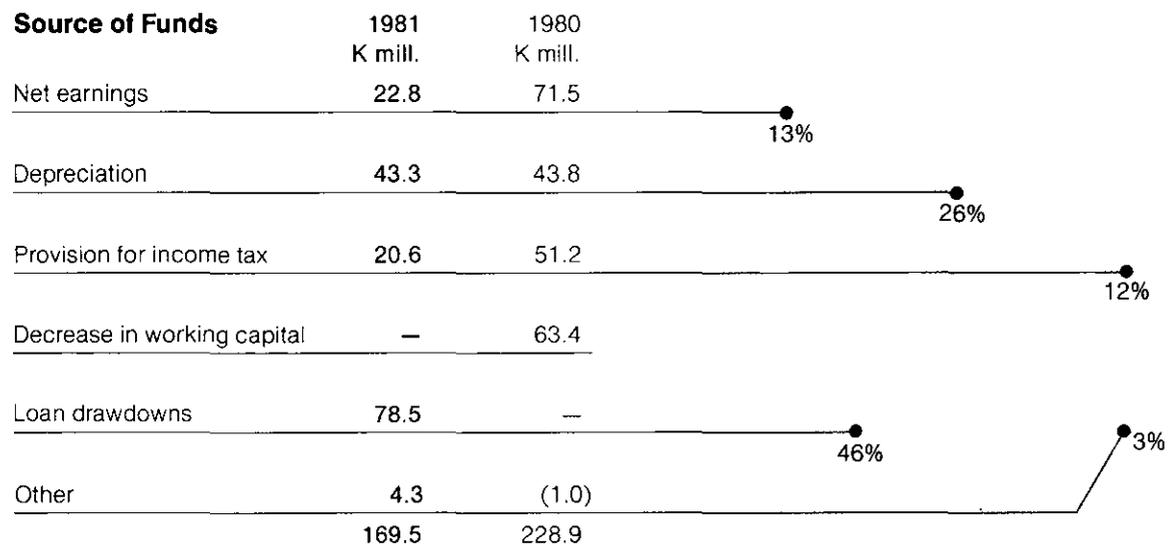
Amount owed to  
creditors & for  
income tax  
K58m.

Stocks  
& stores  
K49m.

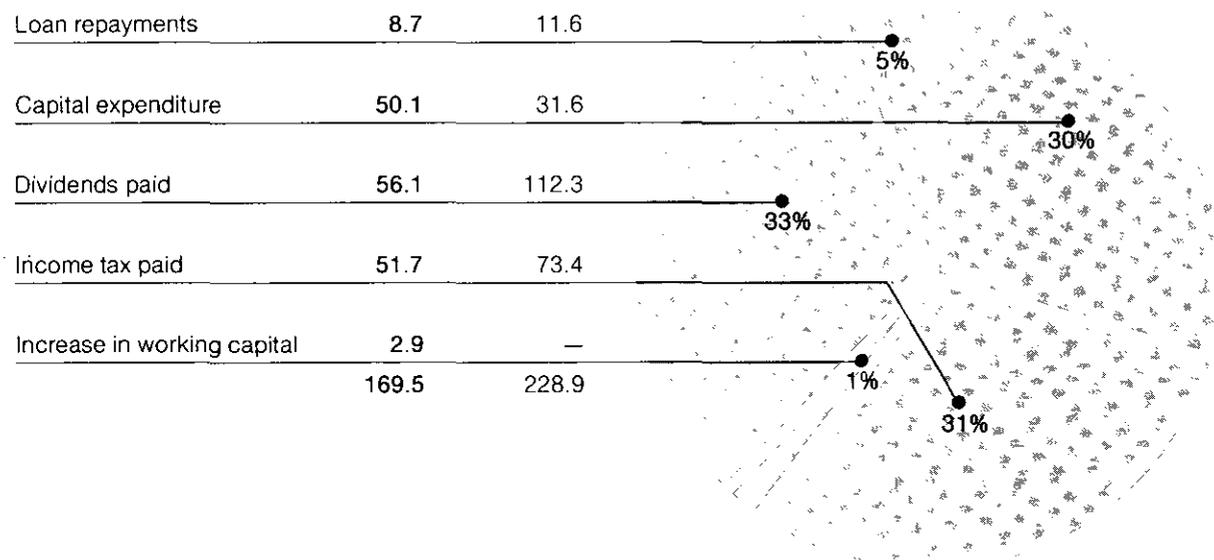
Cash at bank  
K11m.

# Source & Application of Funds

Bougainville Copper Limited



## Application of Funds



# Directors' Report

The directors of Bougainville Copper Limited present their report on the audited financial statements of the Company and its subsidiary for the year ended 31 December, 1981.

## Directors:

The directors of Bougainville Copper Limited at the date of this report are:

D. C. Vernon (Chairman)

N. R. Agonia

Sir Frank Espie, O.B.E.

R. H. Harding

P. W. Quodling

J. T. Ralph

Mr P W Quodling and Mr J T Ralph retire in accordance with the Company's Articles of Association and, being eligible, offer themselves for re-election.

## Activities:

Bougainville Copper Limited has produced concentrate containing copper, gold and silver from a mine at Panguna, North Solomons Province, since 1972. Its subsidiary, Bougainville Copper Finance N.V. is incorporated in the Netherlands Antilles for fund raising purposes. No change in the activities of the group occurred during the year.

## Net earnings:

The net earnings of Bougainville Copper Limited and its subsidiary for 1981 totalled K22 788 000 after providing K43 285 000 depreciation and amortisation, K3 686 000 for royalties and K20 560 000 for income tax.

## Taxation:

Taxation of K20 560 000 charged to earnings comprises K17 058 000 current tax and K3 502 000 future tax.

This is the first year in which the Company has adopted the policy of tax effect accounting.

## Subsidiaries:

No subsidiaries were acquired or disposed of during the year. No dividends were paid by Bougainville Copper Finance N.V.

## Share Capital:

There was no change in the Company's capital structure during the year.

## Exchange Fluctuations:

Exchange losses of K434 000 were realised on the repayment of United States and Australian dollar loans. Unrealised exchange gains on overseas borrowings were K751 000. In addition exchange gains of K752 000 arose on the translation of overseas bank balances. All these gains and losses were included in 1981 earnings.

## Long Term Loans:

Drawdowns of K78 472 000 were made during the year against long term loan arrangements. Repayments of K8 703 000 were made against existing loans, leaving a balance outstanding at the end of the year of K101 116 000.

## Revolving Credit Facility:

An agreement to provide a US\$125.0 million Revolving Credit Facility was signed in May 1981. The facility is a syndicated loan with 15 banks, jointly managed by the Commonwealth Trading Bank of Australia and the Bank of America.

## Dividends:

An interim dividend of two toea per share was declared on 19 August, 1981 and paid on 5 November, 1981. A final dividend of three toea per share has been declared and is payable on 6th May, 1982. Withholding tax is deducted from dividends where required by the Chief Collector of Taxes.

## Auditors:

The retiring Auditors, Coopers & Lybrand, being eligible, offer themselves for re-appointment.

## Statutory Information:

In accordance with the provisions of Section 171 of the Companies Act (Chapter 146), the directors state that:

1. In their opinion, the results of the group's operations in the year under review have not been materially affected by items of an abnormal character except as mentioned in this report.
2. In their opinion, the current assets will realise at least the value at which they are shown in the accounts and that the value is an amount that these current assets might reasonably be expected to realise in the ordinary course of business.

3. No circumstances have arisen which render adherence to the method of valuation of assets or liabilities misleading or inappropriate.

4. No contingent liabilities have arisen since the balance date of the group accounts, 31 December, 1981, and the date of this report, 9 February, 1982.

5. No contingent liabilities have become enforceable or are likely to become enforceable within twelve months from the date of this report which will materially affect the group in its ability to meet its obligations as and when they fall due.

**Additional Information:**

The directors also state that:

1. They took reasonable steps before the statements of earnings and balance sheets were made out to ascertain what action had been taken so far as debts owing to the holding company were concerned, in relation to the writing off of bad debts and the making of provisions for doubtful debts and are satisfied that there were no bad debts and that a provision for doubtful debts of K50 000 was adequate.

2. They are not aware of any circumstances which would render the amounts written off for bad debts or the amounts of the provision for doubtful debts inadequate to any substantial extent.

3. Since the end of the financial year, no charge on the assets of either of the companies in the group has arisen which secures the liability of any other person.

4. They are not aware of any circumstances not otherwise dealt with in this report or group accounts, which would render any amount stated in the group accounts misleading.

5. No item, transaction or event of a material and unusual nature has arisen in the interval between the end of the financial year and the date of this report, which in the opinion of the directors of Bougainville Copper Limited, is likely to substantially affect the results of the operations of the group in 1982.

Signed this 9th day of February, 1982 in accordance with a resolution of the directors of Bougainville Copper Limited.



D. C. Vernon (Chairman)



P. W. Quodling (Director)

# Statements of Earnings

year ended 31 December, 1981

Bougainville Copper Limited

	Notes	Consolidated		Bougainville Copper Limited	
		1981 K'000	1980 K'000	1981 K'000	1980 K'000
<b>Income</b>					
Net sales revenue		294 969	335 140	294 969	335 140
Other income (net)		1 399	3 522	1 399	3 522
		<u>296 368</u>	<u>338 662</u>	<u>296 368</u>	<u>338 662</u>
<b>Costs and expenses</b>					
Costs of sales, general and administration expenses		197 521	166 958	197 521	166 958
Depreciation and amortisation	3	43 285	43 841	43 285	43 841
Royalties		3 686	4 177	3 686	4 177
Interest		9 597	3 546	9 597	3 546
		<u>254 089</u>	<u>218 522</u>	<u>254 089</u>	<u>218 522</u>
Net exchange gains	6	1 069	2 573	1 069	2 573
<b>Earnings before taxation</b>	2	<u>43 348</u>	<u>122 713</u>	<u>43 348</u>	<u>122 713</u>
Income tax	4	20 560	51 179	20 560	51 179
<b>Net earnings for year</b>		<u>22 788</u>	<u>71 534</u>	<u>22 788</u>	<u>71 534</u>
Add:					
Retained earnings brought forward		152 165	160 844	152 168	160 847
		<u>174 953</u>	<u>232 378</u>	<u>174 956</u>	<u>232 381</u>
Less:					
Bonus dividend from retained earnings		—	16,043	—	16,043
		<u>174,953</u>	<u>216,335</u>	<u>174,956</u>	<u>216,338</u>
Less:					
<b>Ordinary dividends</b>					
Interim paid		8 021	32 085	8 021	32 085
Final payable		12 032	32 085	12 032	32 085
		<u>20 053</u>	<u>64 170</u>	<u>20 053</u>	<u>64 170</u>
<b>Retained earnings carried forward</b>		<u>154 900</u>	<u>152 165</u>	<u>154 903</u>	<u>152 168</u>

All amounts are expressed in Papua New Guinea kina.  
Rounding to the nearest thousand kina has been adopted.  
The notes commencing on page 26 form part of these  
accounts and are to be read in conjunction with them.

# Balance Sheets

at 31 December, 1981

Bougainville Copper Limited

	Notes	Consolidated		Bougainville Copper Limited	
		1981 K'000	1980 K'000	1981 K'000	1980 K'000
<b>Funds employed by the group:</b>					
<b>Shareholders' funds</b>					
Paid up capital	5	401 063	401 063	401 063	401 063
Asset revaluation reserve		31 276	31 276	31 276	31 276
Retained earnings		<u>154 900</u>	<u>152 165</u>	<u>154 903</u>	<u>152 168</u>
		<u>587 239</u>	<u>584 504</u>	<u>587 242</u>	<u>584 507</u>
<b>Exchange fluctuation</b>	6	1 478	5 054	1 478	5 054
<b>Long term liabilities</b>					
Future income tax	4	3,502	—	3,502	—
Loans	7	72 525	22 421	72 525	22 421
Provision for long service leave		<u>4 050</u>	<u>3 300</u>	<u>4 050</u>	<u>3 300</u>
		<u>80 077</u>	<u>25 721</u>	<u>80 077</u>	<u>25 721</u>
<b>Current liabilities</b>					
Loans	7	28 591	7 893	28 591	7 893
Creditors	8	30 473	33 141	30 471	33 139
Income tax		20 153	54 829	20 153	54 829
Dividends payable		<u>12 032</u>	<u>48 128</u>	<u>12 032</u>	<u>48 128</u>
		<u>91 249</u>	<u>143 991</u>	<u>91 247</u>	<u>143 989</u>
<b>Total funds</b>		<u>760 043</u>	<u>759 270</u>	<u>760 044</u>	<u>759 271</u>
<b>These funds are represented by:</b>					
<b>Fixed assets</b>					
Property, plant and equipment	9	611 234	610 759	611 234	610 759
<b>Investments</b>	10	145	83	154	92
<b>Current assets</b>					
Bank balances and short term deposits		10 836	16 497	10 828	16 489
Debtors for sale of concentrate		85 968	73 738	85 968	73 738
Other debtors	11	3 242	2 430	3 242	2 430
Stocks and stores	12	<u>48 618</u>	<u>55 763</u>	<u>48 618</u>	<u>55 763</u>
		<u>148 664</u>	<u>148 428</u>	<u>148 656</u>	<u>148 420</u>
<b>Total assets</b>		<u>760 043</u>	<u>759 270</u>	<u>760 044</u>	<u>759 271</u>

All amounts are expressed in Papua New Guinea kina. Rounding to the nearest thousand kina has been adopted.

The notes commencing on page 26 form part of these accounts and are to be read in conjunction with them.

# Notes forming part of the 1981 accounts

Bougainville Copper Limited

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These notes form part of the accounts and consolidated accounts of Bougainville Copper Limited and should be read in conjunction with them.

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## 1. Statement of significant accounting policies

The principal accounting policies adopted in the preparation of the group accounts are stated to assist in a general understanding of the financial statements.

The policies generally comply with Australian accounting standards. They are consistent with those adopted in the previous year unless otherwise stated.

### Cost Convention

The results of operations and financial position of the Company are accounted for under the historical cost convention, except that they reflect the revaluation of certain major items of leasehold property, plant and equipment in 1980.

### Depreciation and Amortisation

Depreciation and amortisation is provided on cost or valuation and charged against income by the straightline method based on the shortest of the estimated economic useful life of the asset, the remaining life of the mine or twenty years. Depreciation commences in the month following commissioning ready for use.

### Exploration and Development Expenditure

Expenditure on exploration within the mining lease and development is written off or provided against as incurred. Exploration has not been undertaken outside the mining lease.

### Maintenance and Repairs

Expenditure on maintenance and repairs is charged against income as incurred.

### Valuation of Stocks and Stores

Concentrate stocks are valued at direct production cost, which is lower than net realisable value. Cost includes direct materials, services and overheads, but excludes depreciation and indirect overheads. Other stocks and stores are valued at average cost, excluding transportation costs, less an allowance for obsolescence.

### Net Sales Revenue

Sales are recognised when the risk passes to the buyer which is usually at the time when the concentrate enters the ship's hold. The final sales value, however, can only be determined from weights, assays, prices, exchange rates and treatment charges applying after a shipment has arrived at its destination. Consequently, estimates are used to determine the net sales revenue of consignments in the period between their shipment and final valuation. The estimates of sales revenue for shipments not due for final valuation until the following year are considered realistic. Any variation from revenue actually realised will be included in the following year's financial statements.

### Taxation

Provisions for current and future income tax are calculated on earnings for the period. Certain items of expenditure, consisting of depreciation, provision for future liabilities, major consumable stock items and operating spares, are deductible for income tax in different periods from which they are charged against earnings. The amount of the taxation difference due to timing is classified as future tax.

This is the first year in which the Company has adopted the foregoing policy of tax effect accounting. The variation between this policy as it applies to the 1980 results and that applied in 1980 is not material.

### Foreign Currency Conversion

Monetary assets and liabilities in foreign currencies are converted to Papua New Guinea currency at the rates of exchange ruling at balance date. All other overseas transactions are converted at the rates of exchange applying when they occurred.

Unrealised exchange gains and losses (previously losses only) on overseas borrowings are now being amortised over the period of the related borrowings.

### Subsidiary

The wholly owned subsidiary, Bougainville Copper Finance N.V., is incorporated in the Netherlands Antilles for fund raising purposes. This company has been consolidated in accordance with conventional consolidation principles.

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		Bougainville Copper Limited	
Consolidated		1981	1980
1981	1980	K'000	K'000

## 2. Earnings before taxation

Earnings before taxation have been determined after allowing for the following income and expense items:

Income:		1981	1980	1981	1980
		K'000	K'000	K'000	K'000
Interest on short term deposits		2 024	3 461	2 024	3 461
Dividends — received from non-related corporation		1	1	1	1
Profit on disposal of shares		30	—	30	—
Expenses:		1981	1980	1981	1980
Interest — on long term loan from subsidiary		—	—	1 198	1 299
— on long term loans and standby facilities		9 597	3 546	8 399	2 247
Provision for doubtful debts (Note 13)		3	6	3	6
Loss on disposal and retirement of fixed assets		5 061	625	5 061	625
Research and development expenditure		686	1 082	686	1 082
Directors' emoluments (Note 14)		8	12	8	12
Auditors' remuneration —					
auditing the accounts		92	92	92	92
other services		4	21	4	21

(The auditors have received no other benefits)

## 3. Depreciation and amortisation

The amount charged against earnings comprises:

		1981	1980	1981	1980
		K'000	K'000	K'000	K'000
Depreciation on: buildings		15 456	15 804	15 456	15 804
plant, machinery and equipment		24 457	24 705	24 457	24 705
Amortisation of: mine property		3 106	3 106	3 106	3 106
borrowing expenses		266	226	266	226
Total		<u>43 285</u>	<u>43 841</u>	<u>43 285</u>	<u>43 841</u>

## 4. Taxation

(a) Taxation on earnings for the year comprises:

Current		20 181	56 583	20 181	56 583
Future		1 630	—	1 630	—
		<u>21 811</u>	<u>56 583</u>	<u>21 811</u>	<u>56 583</u>
Adjustments relating to previous year:					
Current		(3 123)	(5 404)	(3 123)	(5 404)
Future		1 872	—	1 872	—
		<u>20 560</u>	<u>51 179</u>	<u>20 560</u>	<u>51 179</u>

(b) The following reconciliation discloses the items which caused the charge for income tax in the statements of earnings to vary from the income tax prima facie payable on reported earnings:

		1981	1980	1981	1980
		K'000	K'000	K'000	K'000
Income tax prima facie payable		15 822	44 790	15 822	44 790
Permanent differences					
— double deduction allowable		(692)	—	(692)	—
— non allowable depreciation		6 928	5 979	6 928	5 979
— net (gains)/losses exempt from tax		(247)	(694)	(247)	(694)
— other		—	199	—	199
Additional profits tax		—	11 566	—	11 566
Timing differences deferred from/(to) future periods		—	(5 257)	—	(5 257)
Adjustments relating to previous year		(1 251)	(5 404)	(1 251)	(5 404)
		<u>20 560</u>	<u>51 179</u>	<u>20 560</u>	<u>51 179</u>

(c)

Future tax		1981	1980	1981	1980
		K'000	K'000	K'000	K'000
Balance 1 January		—	—	—	—
Transferred from current tax		1 872	—	1 872	—
Transferred from earnings		1 630	—	1 630	—
Balance 31 December		<u>3 502</u>	—	<u>3 502</u>	—

Consolidated		Bougainville Copper Limited	
1981	1980	1981	1980
K'000	K'000	K'000	K'000

## 5. Capital

The authorised capital of K425 000 000 consists of 425 000 000 ordinary shares of one kina each. The issued capital of the Company is 401 062 500 ordinary shares of one kina each, fully paid. No change in authorised or issued capital occurred during 1981.

## 6. Exchange fluctuation

(a) The movements in Exchange Fluctuation Account relating to overseas loan obligations were:

Balance of unrealised gains 1 January	5 054	5 387	5 054	5 387
Increase/(decrease) due to currency movements during the year	(3 259)	1 510	(3 259)	1 510
Net amount credited to earnings	(317)	(1 843)	(317)	(1 843)
Balance at 31 December	<u>1 478</u>	<u>5 054</u>	<u>1 478</u>	<u>5 054</u>

(b) The net exchange gains credited to earnings arise from:

Overseas borrowings	317	1 843	317	1 843
Overseas cash balances	752	730	752	730
	<u>1 069</u>	<u>2 573</u>	<u>1 069</u>	<u>2 573</u>

## 7. Long term loans

(a) Total long term loans are repayable as follows:

within one year	28 591	7 893	28 591	7 893
later than one year	72 525	22 421	72 525	22 421
Total outstanding obligations	<u>101 116</u>	<u>30 314</u>	<u>101 116</u>	<u>30 314</u>

All loans are secured by a charge over 291 759 653 shares in the Company owned by CRA Limited, the Independent State of Papua New Guinea and The Investment Corporation of Papua New Guinea. The charge can only become enforceable after default in respect of the Japanese equipment loan. The charge is not directly enforceable by other lenders.

(b) The following are the individual loans which make up the total outstanding loan obligations:

Bank loans	Interest Rate 1981	Repayable				
International Westminster Bank (US dollars)	—	—	—	646	—	646
Bank of America (US dollars)	—	—	—	1 808	—	1 808
Papua New Guinea Banking Corporation (kina)	14.25%	1982-1985	6 000	8 000	6 000	8 000
Revolving Credit Facility — Consortium of 15 banks (US dollars)	16.41%	1987-1991	54 589	—	54 589	—
Standby Credit Facility — Commonwealth Trading Bank of Australia (US dollars)	12.38%	1982	23 882	—	23 882	—
			<u>84 471</u>	<u>10 454</u>	<u>84 471</u>	<u>10 454</u>
Other loans						
Japanese equipment loan (US dollars)	6.85%	1982	1 395	2 639	1 395	2 639
Australian equipment loans (Aust. dollars)	7.5%	1982	202	1 162	202	1 162
E.F.I.C. Crusher loan (Aust. dollars)	8.75%	1982-1984	1 619	2 245	1 619	2 245
Bearer Notes due 1984 (US dollars)	8.75%	1982-1984	13 429	13 814	—	—
Loan from Subsidiary (US dollars)	8.75%	1982-1984	—	—	13 429	13 814
			<u>16 645</u>	<u>19 860</u>	<u>16 645</u>	<u>19 860</u>
Total outstanding obligations			<u>101 116</u>	<u>30 314</u>	<u>101 116</u>	<u>30 314</u>

## 8. Creditors

Amounts due to creditors comprise:

Related corporations:

Subsidiary company	—	—	786	821
Other	182	295	182	295
Trade creditors	13 130	17 426	13 130	17 426

Other current liabilities:

Secured	1 515	954	727	131
Unsecured	15 646	14 466	15 646	14 466

Total	<u>30 473</u>	<u>33 141</u>	<u>30 471</u>	<u>33 139</u>
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	Consolidated		Bougainville Copper Limited	
	1981 K'000	1980 K'000	1981 K'000	1980 K'000
<b>9. Property, plant and equipment</b>	Bougainville Copper Limited and Consolidated			
	Cost or valuation K'000	Accumulated depreciation K'000	1981 net K'000	1980 net K'000
Leasehold land & buildings				
—at 1980 directors' valuation	292 429	29 947	262 482	279 986
—at cost	30 404	994	29 410	10 229
Plant, machinery & equipment				
—at 1980 directors' valuation	276 745	42 693	234 052	258 126
—at cost	36 317	3 780	32 537	15 903
Mine property—at cost	62 121	30 271	31 850	34 957
Capitalised borrowing expenses—at cost	806	266	540	355
Capitalised works in progress—at cost	20 363	—	20 363	11 203
	<u>719 185</u>	<u>107 951</u>	<u>611 234</u>	<u>610 759</u>

#### 10. Investments

Unquoted shares at cost in:

Subsidiary company	—	—	9	9
Other related corporations	—	38	—	38
Other companies	145	45	145	45
Total	<u>145</u>	<u>83</u>	<u>154</u>	<u>92</u>

#### 11. Other debtors

Amounts due from other debtors comprise:

Related corporations	315	217	315	217
Other debtors and payments in advance	2 977	2 263	2 977	2 263
Provision for doubtful debts	(50)	(50)	(50)	(50)
Total	<u>3 242</u>	<u>2 430</u>	<u>3 242</u>	<u>2 430</u>

#### 12. Stocks and stores

Unshipped concentrate	5 596	12 842	5 596	12 842
Other stocks and stores	43 022	42 921	43 022	42 921
Total	<u>48 618</u>	<u>55 763</u>	<u>48 618</u>	<u>55 763</u>

#### 13. Bad and doubtful debts

Amounts provided during the year for doubtful debts were in respect of:

Other debtors	3	6	3	6
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Bad debts of K3 466 were written off against the provision for doubtful debts.

#### 14. Directors' emoluments

The total of the emoluments received, or due and receivable (whether from the Company or from related corporations) by:

	1981		1980	
	Company K'000	Related Corporations K'000	Company K'000	Related Corporations K'000
(a) directors of the Company engaged in the full-time employment of the Company or its related corporations (including all bonuses and commissions received or receivable by them as employees but not including the amount received or receivable by them by way of fixed salary as employees), was	—	—	—	—
(b) other directors of the Company, was	8	23	12	34

No commissions for subscribing for, or agreeing to procure subscriptions for any shares in or debentures of the Company or any related corporation, were received or are due and receivable by any director.

#### 15. Commitments for capital expenditure

The commitments for capital expenditure not reflected in the financial statements total approximately K26 950 000 (1980 K9 708 000).

#### 16. Contingent liabilities

Bougainville Copper Limited has guaranteed the Bearer Notes issued by its subsidiary K13 429 000 (1980 K13 814 000).

#### 17. Ultimate holding company

The ultimate holding company is The Rio Tinto-Zinc Corporation Limited (incorporated in England).

# Declarations

## Statement by Directors

In the opinion of the Directors of Bougainville Copper Limited the accompanying statements of earnings are drawn up so as to give a true and fair view of the results of the business of the Company and its subsidiary for the period covered by the statements and the accompanying balance sheets are drawn up so as to exhibit a true and fair view of the state of affairs of the Company and its subsidiary at the end of that period.

Signed at Panguna this 9th day of February, 1982.

On behalf of the Board  
D. C. VERNON, P. W. QUODLING  
Directors

## Declaration by Secretary

I, Jillian Margaret Ferguson, Secretary of Bougainville Copper Limited, do solemnly and sincerely declare that the accompanying balance sheets and statements of earnings of the Company and its subsidiary are, to the best of my knowledge and belief, correct. And I make this solemn declaration by virtue of the Oaths, Affirmations and Statutory Declarations Act (Chapter 317), conscientiously believing the statements contained herein to be true in every particular.

Declared at Panguna this 9th day of February, 1982.

J. M. FERGUSON  
Secretary

Before me:  
L. G. SMITH  
Commissioner for Oaths

## Report of the Auditors to the Members

We report on the accompanying balance sheets and statements of earnings of the Company and its subsidiary set out on pages 24 to 29 which have been prepared under the cost convention described in note 1.

In our opinion these balance sheets and statements of earnings are properly drawn up in accordance with the provisions of the Companies Act (Chapter 146), and so as to give a true and fair view of the state of affairs of the Company and its subsidiary as at 31st December, 1981, and the results for the year ended on that date.

In our opinion the accounting and other records, including registers, examined by us have been properly kept in accordance with the provisions of the Act.

COOPERS & LYBRAND

by A Hilton  
Registered under the Accountants Registration and Practice Act (Chapter 89).

Arawa. 10th February, 1982

# Shareholdings

## Distribution of shares

As at 9th February, 1982:  
The issued shares of the Company were 401 062 500 fully paid one kina shares, each carrying one voting right;

The number of shareholders was 38 083;

The distribution of holdings of the issued shares was:

1- 1 000 shares	28 165
1 001- 5 000 shares	8 120
5 001-10 000 shares	1 056
10 001 shares and over	742
<b>Total shareholders</b>	<b>38 083</b>

84.37% of the total issued shares were held by the 20 largest shareholders;

The substantial shareholders were: CRA Limited and its wholly-owned subsidiary CRA Base Metals Pty. Limited — 214 887 966 shares (53.6%). The Rio Tinto-Zinc Corporation Limited has an interest in the same shares through its wholly-owned subsidiaries', (R.T.Z. Australian Holdings Limited and C.R.A. Holdings Pty. Limited), interests in CRA Limited and CRA Base Metals Pty. Limited.

The Independent State of Papua New Guinea, and The Investment Corporation of Papua New Guinea — 81 232 605 shares (20.3%).

## Ten largest shareholders

The ten largest shareholders at 9th February, 1982, and the number of shares held by each were:

Name & Registered Address:	Shares
CRA Limited, Melbourne, Vic.	210 788 514
The Independent State of Papua New Guinea	76 430 809
ANZ Nominees Limited, Melbourne, Vic.	10 761 753
National Nominees Limited, Melbourne, Vic.	8 848 056
The National Mutual Life Association of Australasia Limited, Melbourne, Vic.	6 512 334
The Investment Corporation of Papua New Guinea, Port Moresby, P.N.G.	4 801 796
CRA Base Metals Pty. Limited, Melbourne, Vic.	4 099 452
Panguna Development Foundation Limited, Panguna, P.N.G.	3 600 000
Bank of New South Wales Nominees Pty. Ltd., Sydney, N.S.W.	2 538 329
The Colonial Mutual Life Assurance Society Limited, Melbourne, Vic.	2 055 886
	<b>330 436 929</b>

## Directors' interests

Directors' interests in the share capital of the Company and its related companies as at the 21st January, 1982 were:

D. C. Vernon No interests  
N. R. Agonia No interests

Sir Roderick Carnegie 9 000 BCL shares  
1 000 MKU shares  
42 000 CRA shares

Sir Frank Espie 750 BCL shares  
533 CRA shares

R. H. Harding 6 709 CRA shares  
504 BCL shares  
1 000 MKU shares

P. W. Quodling No interests  
J. T. Ralph 171 BCL shares  
587 CRA shares

J. L. Kekedo (Alt. Director) 180 BCL shares

Abbreviations:  
BCL — Bougainville Copper Limited  
CRA — CRA Limited  
MKU — Mary Kathleen Uranium Limited

# Current Cost Accounting

The information presented in Historical Cost Accounts (HCA) can be misleading since full recognition is not given to the impact of price changes on the funds needed to maintain the assets employed by the Company. The need to remedy the defects in the traditional HCA accounts has focused attention on various proposals, one of which, Current Cost Accounting (CCA), is gaining international acceptance. The Company's earnings on an HCA basis are overstated in times of rising prices because of the failure to recognise the increased cost of replacing stocks and other assets required to maintain the business as a going concern. Therefore, in CCA, adjustments are made to measure the effect of specific price changes on the cost of services derived by the Company from use of its assets. However, because these assets have been financed partly by borrowing, a gearing adjustment is also necessary to arrive at the earnings, adjusted for specific price changes, which are attributable to shareholders. CCA is still largely in the experimental phase and further testing is required before a definitive system is established. However, the subjectivity that enters into the preparation of the CCA accounts is compensated for by increased realism and relevance of information presented in these financial statements. Until such time as an Australian standard is issued, the Company will prepare CCA statements in accordance with the Statement of Standard Accounting Practice No. 16, Current Cost Accounting, issued by the Accounting Standards Committee of the United Kingdom in March 1980.

## Current Cost Statement of Earnings

Bougainville Copper Limited  
and Subsidiary Company

	1981	1980
	K'000	K'000
Income	296 368	338 662
Costs and expenses excluding interest	244 492	214 976
<b>Historical cost earnings before interest</b>	<b>51 876</b>	<b>123 686</b>
Less:		
Current cost operating adjustments (refer below)	17 811	7 841
<b>Current cost earnings from operations</b>	<b>34 065</b>	<b>115 845</b>
Less: Interest on net borrowing	9 597	3 546
	24 468	112 299
Add: Net exchange gains	1 069	2 573
<b>Current cost earnings before taxation</b>	<b>25 537</b>	<b>114 872</b>
Less: Income tax	20 560	51 179
Current cost earnings attributable to entity	4 977	63 693
Add: Gearing adjustment	5 476	1 854
<b>Current cost earnings attributable to shareholders</b>	<b>10 453</b>	<b>65 547</b>
Add:		
Current cost retained earnings brought forward	137 483	152 149
	147 936	217 696
Less:		
Dividends	20 053	80 213
<b>Current cost retained earnings carried forward</b>	<b>127 883</b>	<b>137 483</b>

## Current cost operating adjustments:

Cost of sales	4 339	2 023
Monetary working capital	4 686	2 255
<b>Working capital</b>	<b>9 025</b>	<b>4 278</b>
Depreciation	8 327	2 704
Disposals of property, plant and equipment	459	859
<b>Property, plant and equipment</b>	<b>8 786</b>	<b>3 563</b>
	17 811	7 841

## Current Cost Balance Sheet

### Funds employed by the group:

#### Shareholders' funds

Paid up capital	401 063	401 063
Current cost reserve	217 423	134 999
Retained earnings	127 883	137 483
	746 369	673 545
Exchange fluctuation	1 478	5 054
Long term liabilities	80 077	25 721
Current liabilities	91 249	143 991
<b>Total funds</b>	<b>919 173</b>	<b>848 311</b>

#### These funds are represented by:

Fixed assets	767 025	694 603
Investments	145	83
Stocks and stores	51 957	60 960
Other current assets	100 046	92 665
<b>Total assets</b>	<b>919 173</b>	<b>848 311</b>

# Statistical Summary

<b>Financial</b>	1981	1980	1979	1978	1977	1976	1975	1974	1973	1972*
<b>Earnings (K million)</b>										
Net sales revenue and other income	296.4	338.7	343.1	225.1	205.3	208.9	193.1	292.6	252.4	95.9
Operating and other expenses	210.8	174.8	144.1	125.0	126.8	117.5	107.2	92.5	81.8	53.3
Depreciation	43.3	43.8	40.7	40.4	36.2	31.1	29.6	28.5	24.8	14.5
Earnings before taxation and exchange gains	42.3	120.1	158.3	59.7	42.3	60.3	56.3	171.6	145.8	28.1
Exchange gains	1.1	2.6	3.5	10.3	(0.1)	1.3	2.3	9.5	12.9	(0.4)
Earnings before taxation	43.4	122.7	161.8	70.0	42.2	61.6	58.6	181.1	158.7	27.7
Taxation	20.6	51.2	77.9	22.0	13.7	20.3	12.4	66.5	0.3	—
Net earnings	22.8	71.5	83.9	48.0	28.5	41.3	46.2	114.6	158.4	27.7
Dividends	20.1	64.2	80.2	40.1	21.4	26.7	26.7	73.5	81.4	11.0
Earnings retained	2.7	7.3	3.7	7.9	7.1	14.6	19.5	41.1	77.0	16.7
<b>Balance sheet (K million)</b>										
Property, plant and equipment	611.2	610.8	325.4	340.1	352.2	350.4	346.0	352.2	371.7	378.7
Investments	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	—
Current assets	148.7	148.4	201.0	125.8	137.1	136.0	129.5	205.6	130.4	73.9
Total assets	760.0	759.3	526.5	466.0	489.4	486.5	475.6	557.9	502.2	452.6
Shareholders' funds	587.2	584.5	294.5	317.5	309.7	302.5	287.9	268.4	227.4	146.7
Exchange fluctuation	1.5	5.1	5.4	9.0	14.6	9.0	11.5	19.1	39.5	24.2
Long term liabilities	80.1	25.7	36.2	42.1	53.3	101.7	106.8	121.1	127.5	204.0
Current liabilities	91.2	144.0	190.4	97.4	111.8	73.3	69.4	149.3	107.8	77.7
Funds employed	760.0	759.3	526.5	466.0	489.4	486.5	475.6	557.9	502.2	452.6
<b>Production/Sales</b>										
<b>Mined</b>										
Ore and waste removed (millions of tonnes)	77.56	79.76	75.97	79.05	70.79	58.54	56.40	56.00	56.65	46.75
Ore milled (millions of tonnes)	37.53	37.62	36.17	38.12	34.11	31.21	31.08	30.14	29.14	21.89
Ore grade										
Copper (per cent)	0.51	0.46	0.55	0.60	0.61	0.64	0.64	0.70	0.73	0.76
Gold (grams/tonne)	0.59	0.50	0.75	0.82	0.90	0.87	0.80	1.02	1.03	0.77
Silver (grams/tonne)	1.55	1.47	1.70	1.80	1.86	1.96	1.87	2.12	1.99	2.06
<b>Produced</b>										
Concentrate (thousands of dry tonnes)	576.4	510.4	584.7	658.6	615.6	596.8	595.5	640.8	650.2	438.1
Contained copper (thousands of dry tonnes)	165.4	146.8	170.8	198.6	182.3	176.5	172.5	184.1	182.9	124.0
Concentrate grade										
Copper (per cent)	28.7	28.8	29.2	30.2	29.6	29.6	28.9	28.7	28.1	28.3
Gold (grams/tonne)	29.2	27.5	33.7	35.5	36.3	33.9	30.5	32.0	31.6	27.3
Silver (grams/tonne)	73.5	72.2	76.3	79.8	77.1	76.1	71.0	72.0	69.0	69.3
<b>Shipped</b>										
Total concentrate (thousands of dry tonnes)	587.0	494.4	586.5	640.9	614.8	605.8	586.9	665.7	625.2	434.4
Shipped to:										
W. Germany	196.8	163.7	187.6	206.8	198.3	223.2	243.5	221.4	200.3	186.8
Japan	296.9	269.4	328.2	326.7	337.1	256.4	250.7	343.2	342.9	209.0
Spain	64.7	41.0	49.0	62.1	47.0	58.2	72.2	57.4	35.8	27.6
Other	28.6	20.3	21.7	45.3	32.4	68.0	20.6	43.8	46.2	11.0
<b>Values</b>										
Net concentrate sales value (K million) (after treatment and refining charges, freight, etc.)	295.0	334.5	338.9	222.9	200.6	205.3	184.8	279.8	249.0	95.7
Contribution by:										
Copper (per cent)	54	51	60	64	66	74	69	74	83	83
Gold (per cent)	44	46	37	34	32	24	29	25	16	16
Silver (per cent)	2	3	3	2	2	2	2	1	1	1
<b>Other</b>										
Average metal prices										
L.M.E. copper (US\$/lb)	79.0	99.2	89.8	61.9	59.3	63.6	55.9	93.3	80.9	48.6
London gold market (US\$/oz.)	459.9	614.7	304.7	193.5	147.8	124.8	160.9	158.7	97.3	58.2
London silver market (US\$/oz.)	10.5	21.0	11.0	5.4	4.6	4.4	4.4	4.7	2.5	1.7
Return on shareholders' funds (%)	3.9	12.2	28.5	15.1	9.2	13.7	16.0	42.7	69.7	18.9
Earnings per share (toea)***	5.7	17.8	20.9	12.0	7.1	10.3	11.5	28.6	39.5	6.9
Dividends in toea per fully paid share*** (par value, one kina)	5.0	16.0	20.0	10.0	5.3	6.7	6.7	18.3	20.0	2.7
Bonus dividend in toea per fully paid share***	—	4.0	6.7	—	—	—	—	—	—	—
Number of shares issued at end of year (millions)	401	401	267	267	267	267	267	267	267	260*
Number of shareholders at end of year	38 027	38 326	38 750	40 935	43 820	50 082	54 129	55 558	45 353	46 726
Debt/equity ratio	0.17/1	0.05/1	0.15/1	0.19/1	0.37/1	0.40/1	0.44/1	0.52/1	0.72/1	1.62/1
Work force at end of year (P.N.G.)										
Overseas	801	877	851	855	853	858	942	980	929	971
National	3 377	3 416	3 314	3 243	3 063	2 989	3 094	3 242	2 915	2 594

## Notes:

\*Full year figures; but commercial production commenced 1 April, 1972

\*\*1972 figure is for Bougainville Mining Limited

\*\*\*1972 to 1979 figures are after adjustment for the 1980 capital reconstruction

# **Bougainville Copper Limited**

(Incorporated in Papua New Guinea)