

# Bougainville Copper Limited Annual Report 1986



(Inside cover): Bougainville Island is situated in the northern group of the Solomon Islands 1000 kilometres east of the National Capital, Port Moresby. The total population is 130000 with BCL directly employing over 3600 people and indirectly creating employment for many more. The Island's other main industries are copra and cocoa.

Pictured is Kieta Harbour, a major port, with one of Bougainville's many small offshore islands in the foreground.

Bougainville Con open pit mine and processing the Island of Bougainvillen, Province of Papua New t trate contain in the

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country's workforce.

and since start up has produced concentrate contain ing 2.6 million tonnes of copper, 269 634 kilograms of gold and 664 589 kilograms of silver. This production had a value of K4.0 billion which represented approximately 46% of the country's exports over that period. During this time contributions to the Government in the form of dividends, taxes and royalties totalled K815.8 million which represent approximately 16% of internally generated Papua New Guinea Government revenue. Further, the Company's presence in the North Solomons Province has promoted the development of significant local business enterprises to provide goods and services required for the mining operation and for the Province's residents.

The Company is the largest private employer in the country employing over 3 600 persons; of these 81% are Papua New Guinea citizens. Company training programmes have resulted in considerable progress in the localisation of the Company's employees and have added significantly to the number of skilled workers in the

The mine is located about 600 metres above sea level in rugged terrain. Equipment and processes used in the production of concentrate follow conventional lines, although the operation is unusual in the very large tonnage of material treated. This is necessary because of the low grade of the deposit. The end product, copper concentrate is shipped to custom smelters in Europe and Asia.

Bougainville Copper Limited is owned 53.6% by CRA Limited. The Papua New Guinea Government own 19.1% while the remaining 27.3% of the share capital is held by public shareholders.

### Year in Brief

		1980	1985
Concentrate production	(tonnes)	586 552	581 752
containing copper	(tonnes)	178 593	175 048
gold	(kilograms)	16 367	14 372
silver	(kilograms)	50 385	46 112
Net sales revenue	(K'000)	337 254	315 670
Net earnings after tax	(K'000)	45 314	28 114
Earnings per share	(toea)	11.3	7.0
Shareholders' funds	(K'000)	587 740	586 543
Return on shareholders' fund	ds (per cent)	7.7	4.8
Gross dividends	(K'000)	44 117	28 074
per one kina share	(toea)	11.0	7.0
Depreciation and amortisati	on (K'000)	47 345	47 597
Government royalties	(K'000)	4 328	3 892
Taxation	(K'000)	28 716	19 016
Number of employees at 31 l	December	3 699	3 652

#### Notice of Meeting

The Annual General Meeting of Bougainville Copper Limited will be held at 10.00 a.m. on Wednesday, 15th April, 1987 in the Panguna Cinema, North Solomons Province, Papua New Guinea.

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

#### Directors

D. S. Carruthers (Chairman)

G. Billard

W. I. N. Davis

P. G. F. Henderson, A.C.

P.W. Quodling, O.B.E.

J. T. Ralph

W. D. Searson

D. C. Vernon

**Officers** 

P.W. Quodling (Managing Director)

(General Manager - Personnel Services)

1006

1095

R. J. Cornelius

(General Manager – Concentrator)

(General Manager - Support Services)

(General Manager - Mine)

S. J. Jopling

(General Manager – Business Analysis)

(General Manager - Commercial)

(General Manager - Technical Services)

P. R. Taylor (Secretary) **Bougainville Copper Limited** (Incorporated in Papua New Guinea)

Registered Office:

Panguna, Province of North Solomons, Papua New Guinea.

Principal Registered Office in Australia:

440 Collins Street, Melbourne. Telephone (03) 658 3333.

**Share Registers:** Victoria: 84 Flinders Lane, Melbourne. Telephone (03) 654 4899.

A.C.T.: Level 4, 24 Marcus Clarke Street. 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:

Bank of America NT & SA.

Commonwealth Bank of Australia. Papua New Guinea Banking Corporation.

Solicitors:

Arthur Robinson & Hedderwicks. Gadens.

#### Theme of 1986 Report:

A large and multifaceted organisation such as Bougainville Copper contributes much more to the National and Provincial economies than its direct contributions in the form of royalties, duties, taxes and dividends. Stimulation of local business, catering for the needs of the Company and also providing services for the rest of the community, has a significant economic multiplier effect.

This report depicts some of these opportunities and facilities that would not normally exist in their current form without the stimulus provided by the mine and its infrastructure

Cover: BCL's presence stimulating business on Bougainville. (Top): Banking, sorting eggs at the North Solomons Agricultural Foundation layer project at Mananau and buying local vegetables for the Company mess. (Middle): Contractors applying protective coating to the pre-concentration screening plant, transport of explosives from the Port to the minesite, the pit showing recently relocated workshops, the Panguna township and the nearly completed pre-concentration screening plant.

(Lower): Medical services in Panguna, building construction,

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### Chairman's Statement

Net earnings for 1986, the Company's fifteenth year of operations were K45.3 million, an increase of K17.2 million on the 1985 result. The improvement over 1985 was due mainly to higher gold prices, higher gold head grades, cost containment and improved metal recoveries. This was a creditable performance considering the depressed state of the copper industry during 1986. The result represents a return on shareholders funds of only 7.7% which is still inadequate though a considerable improvement on the 1985 figure of 4.8%.

Despite a 4% reduction in the tonnes of ore milled, 47.9 million tonnes compared with 50.1 million tonnes in 1985, improved metal recoveries increased the metal content of concentrates produced. This resulted from the operation of the thirteenth ball mill as a regrind mill and highlights the benefits of the continuing cost effective investment thrust by the Company.

The strength of the kina against the US dollar was maintained during 1986 and continued to have an adverse effect on the Company's competitive position. Most of Bougainville Copper's competitors operate in countries with weak currencies.

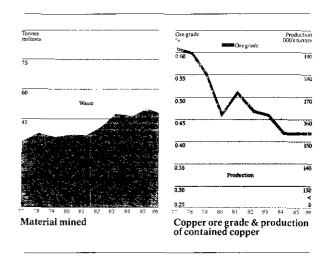
#### Major advances:

Bougainville Copper has a proud record in Papua New Guinea and in its fifteen years of operations has made many major advances to improve long term viability. 1986 was no exception. The thirteenth ball mill brought on line last year operated as a regrind unit throughout 1986. It proved to be most successful by significantly improving metal recoveries. Construction of the preconcentration screening plant proceeded

and the plant is scheduled to come on line in early 1987. This facility will provide new opportunities to optimise the mine plan for the Panguna deposit. During the year a decision was made to construct a tailings disposal pipeline to the west coast. At an estimated cost in excess of K60 million it is the largest single capital investment decision since operations began. This is evidence not only of the Company's determination to remain a long term major copper concentrate producer, but also of its commitment to very high standards of environmental protection.

### **Exploration:**

This report concludes with a feature article on "Exploration and Bougainville Copper." In essence, with the finite life of the Panguna deposit and the long lead times necessary to develop any possible new ore deposit, the Company is eager to commence exploration. The Company's existing infrastructure together with its long experience on Bougainville Island means that it is uniquely placed to develop any further mineral deposits which may be found on the island. Further delays by the National and Provincial Governments in reaching agreement on the terms for allowing new exploration could make any new mining development more difficult to achieve. The benefits of any new developments would be many and various both to Bougainville Island and throughout Papua New Guinea. The theme of this report reflects the spread of the indirect benefits brought by the Company's presence on Bougainville Island.



#### **Outlook:**

The world economy in 1986 was characterised by:

- □ subdued economic growth in the USA
  □ the inability/disinclination of both Japan and West Germany to stimulate their economies
- □ low oil and commodity prices □ growing protectionism.

The outlook for 1987 may be even more restrained. Commodity prices including copper are expected to remain low due to oversupply, static demand and increasing protectionism resulting in the erosion of the terms of trade for all commodity products selling into foreign markets. The future gold price remains uncertain.

The continuing low copper prices will result in poor profitability in the copper mining industry through to the 1990's. The Company however does have the advantage of being a significant gold producer which will continue to offset to some degree the effects of low copper prices.

The strong yen will reduce the ability of the Japanese smelters to compete internationally and will add to existing pressure to increase smelting charges. This could result in the need for the Company to diversify further into other concentrate markets.

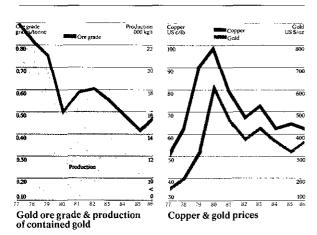
For Bougainville Copper to remain cost competitive in this restrained environment it is important that costs be curtailed both in terms of direct operating costs and Government imposts. Capital investment will continue to be directed towards technological development and other projects aimed at reducing costs.

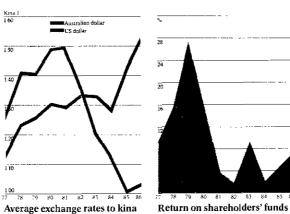
#### **Human resources:**

A restructuring of the Company's trades and supervisory training and the graduate development program implemented during 1986 will strengthen the Company's workforce and provide a better base for future localisation. The Company gained Government approval for its 1986-1989 Training and Localisation Program. This approval recognises the continued emphasis placed on the training and development of Papua New Guinea nationals to improve their individual employment opportunities and to add to the skills of the nation's workforce.

In July, 1986, Mr. D. C. Vernon retired as Chairman of the Board of Directors, but I am happy to report that he is continuing as a director of the Company. Mr. Vernon has had a long association with Bougainville Copper and has made a major and fundamental contribution to the establishment and success of the Company's operations over the last fifteen years.

The improved result for the year, in difficult circumstances, was achieved by a committed and dedicated workforce and the Directors are grateful for their efforts throughout the year.







### Papua New Guinea economy:

The weaker Australian dollar and the reduction in the Australian Government's untied aid to Papua New Guinea, reduced substantially the real value of Australian economic support to Papua New Guinea in 1986. The Papua New Guinea Government response was to reduce government services and to increase the incidence of indirect taxation. These additional imposts will fall disproportionately on the mining industry and associated infrastructure and will have a significant deleterious effect on the industry's international cost competitive position.

By contrast, services and subsidies to the rural sector have increased substantially. Despite this assistance, the rural sector is expected to decline as a contributor to the Papua New Guinea economy over the next five years due to local crop disease, world wide productivity gains and lower commodity price levels.

The surge in gold development activity appears to have revived unreasonable expectations regarding the inevitability of windfall gains from mining. There is a need for recognition that mineral deposits are difficult to find, few are worth developing and not all these developments are profitable.

#### Conclusion

The outlook for the copper industry is one of poor profitability for the rest of the decade at least. Nevertheless, the Company will

continue to maintain its operations at a high level of efficiency and without prejudicing resource availability in the longer term. By continuing to improve cost effectiveness, in order to retain its current position in relation to its competitors, Bougainville Copper will be well placed to achieve a level of greater profitability when the market recovers. While recognising with sympathy and understanding the complex background of relevant social, economic and political factors, the inescapable fact is that the lifting of the moratorium on new exploration on Bougainville Island is a prerequisite for the Company to build on the past fifteen years of successful operations in Papua New Guinea.

D. S. Carruthers

Chairman

17th February, 1987

Bougainville Copper and the community:

The large workforce required by the Company and by businesses primarily servicing BCL enables community benefits and facilities which are only viable in a large community.

(Main photo): A modern well equipped 15 bed private clinic was opened in April 1985 by the North Solomons Medical Foundation. This relieves some of the pressure from the Arawa General Hospital and offers a high standard of surgical, dental and medical facilities. Pictured is a newborn child (from the Buka area) in a humidicrib.

(Left inset): An aerial view of the new Arawa Clinic. (Right inset): The Red Cross is very active in the area. Pictured is a blood donor and Red Cross volunteer.

## **Review of Operations**

Measured Ore Reserve: The recoverable proved ore reserves at the end of 1986 in the current pit design were estimated at 580 million tonnes at 0.40% copper and 0.46 grams of gold per tonne of ore. However commissioning of the preconcentration screening plant in early 1987 opens new parameters in ore definition and it is proposed to review pit design and ore reserves in the light of plant performance.

**Production:** Production statistics were as follows:

	Year	Year
	Ended	Ended
	31/12/86	31/12/85
Material mined (millions o	f tonnes)	
Ore `	47.9	50.1
Waste	31.3	23.5
Waste/Ore ratio	0.65/1	0.47/1
Ore grade		
Copper (per cent)	0.42	0.42
Gold (grams/tonne)	0.48	0.42
Silver (grams/tonne)	1.38	1.21
Concentrate produced		
_(dry tonnes)	586 552	<u>581</u> 752
Concentrate grade		
Copper (per cent)	30.5	30.1
Gold (grams/tonne)	27.9	24.7
Silver (grams/tonne)	85.9	79.3
Contained metal in concen	itrate	
Copper (tonnes)	178593	175 048
Gold (kilograms)	16 367	14 372
Silver (kilograms)	50 385	46 112

Mine: Total production from the pit during the year was 79.2 million tonnes comprising 47.9 million tonnes of ore and 31.3 million tonnes of waste. Copper grade was maintained at 0.42%, but gold grade increased to 0.48 grams/tonne. The increase in gold head grade occurred mainly in the first half of the year when mining emphasis was on the north side of the pit where the gold/copper ratio is higher than the average for the ore body.

Waste removal continued at a significantly higher rate than in 1985. Stripping was concentrated on the northern and southern sides of the pit.

Mining equipment availability and performance continued at high levels. Modifications were carried out to the haul truck fleet resulting in significant reductions in noise levels experienced by the operators.

A research program to ensure the long term viability of the mining operations continued with efforts being directed towards maxi-

mising pit slope angles, cost reduction in materials handling and increasing the mineable reserves of the resource.

The drilling program around the periphery of the Panguna pit continued with emphasis on the northern side of the orebody where further low grade mineralisation was confirmed outside the current pit design.

Concentrator: The operation of No. 13 ball mill as a secondary (regrind) mill increased efficiency in copper recovery enabling a slight increase in concentrate production despite a reduction in material processed from 50.1 million tonnes in 1985 to 47.9 million tonnes in 1986.

Concentrate production for 1986 was 586 552 (1985:581 752) tonnes containing 178 593 (1985:175 048) tonnes of copper, 16 367 (1985: 14 372) kilograms of gold and 50 385 (1985: 46 112) kilograms of silver. The improvement in metal production was due to an increase in head grades during the first half of the year, and also to a significant increase in metal recoveries achieved through the processing of reground ore from the No. 13 mill regrind circuit.

Assessment of the new higher capacity "Omnicone" crusher, being developed by the Company in joint participation with Rexnord U.S.A., continued throughout the year. A decision regarding future use will be made during 1987.

Construction of the 35 million tonnes per annum capacity pre-concentration screening facility continued throughout the year. The plant is planned to come on stream early in 1987 and should offset a projected decline in head grade and improve flexibility in resource utilisation.

Bougainville Copper and local industry:

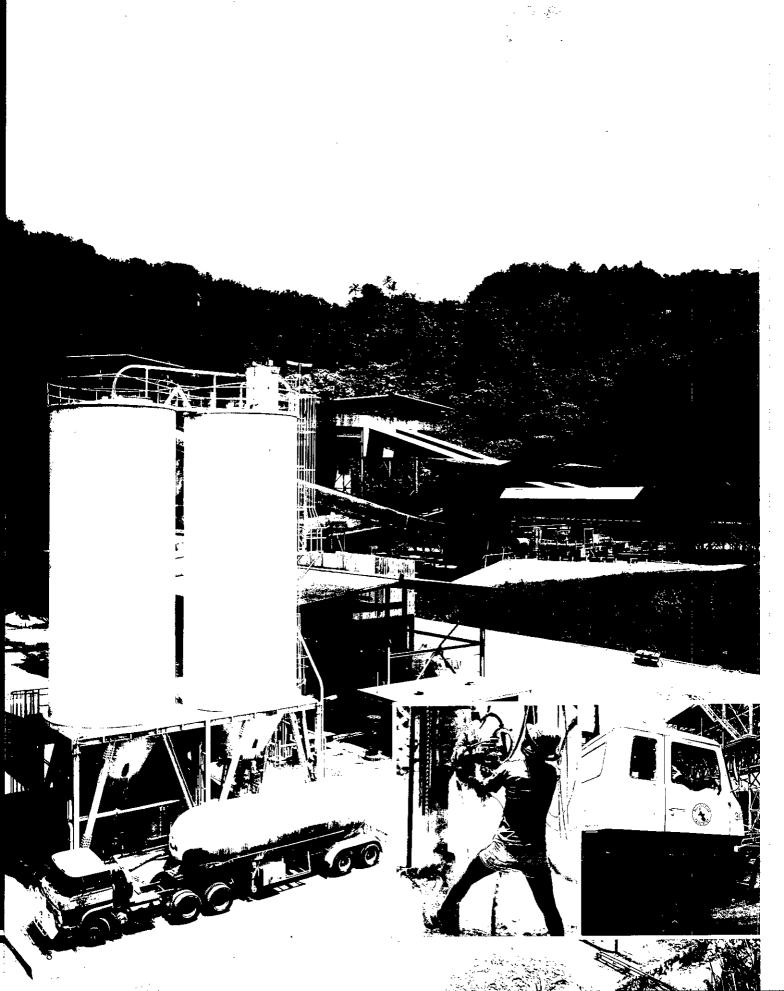
BCL has over K500 million in property, plant and equipment and is continually upgrading its assets to remain cost competitive. Much of the non-operational maintenance and construction is done by local contractors with skills ranging from general road maintenance to trades such as welders, builders and electricians. This provides opportunities for many local enterprises of all types.

(Main photo): Refurbishing of a shovel. This work is done by a subsidiary of Bougainville Development Corporation — a company set up in 1975 to help develop the Province by taking advantage of opportunities provided by the needs of BCL.

(Left inset): Building construction in Panguna.

(Right inset): The data communications equipment for the Company's new Fujitsu mainframe installed by a local contractor.





Operating Costs: The cost of producing concentrate has been contained to 1985 levels through the combined effect of lower oil prices and cost awareness programs.

The main thrust of Papua New Guinea's 1987 budget is towards indirect taxation particularly in the customs and excise area. This gives cause for concern. The Company is largely reliant on the importation of technologically advanced equipment. However, as an exporter, it must compete on international markets.

Additional imposts represent a cost that cannot be recouped. Countries which have embarked on this type of revenue raising have raised their internal cost structures to the stage where they are no longer competitive, with a consequential long term adverse effect on export revenues.

Marketing: Sales during 1986 totalled 589 384 (1985: 559 953) dry tonnes of concentrate containing 178 774 (1985: 168 714) tonnes of copper, 16 445 (1985: 13 770) kilograms of gold and 50 373 (1985: 44 277) kilograms of silver. Higher concentrate sales combined with a significantly higher gold price resulted in increased sales revenue.

During the first half of the year, world refined copper stocks continued to decline to around their historically 'normal' levels. In the second half of the year copper metal demand weakened in line with slower economic growth particularly in the United States and Japan. Coupled with slightly higher world production this caused metal stocks to rise. The recommissioning of idle mine capacity and the potential for further reopenings has contributed to continued downward pressure on the copper price, currently at its

Bougainville Copper and support infrastructure:

BCL maintains a stores inventory in excess of K35 million and has operating expenses of over K200 million. Much of BCL's needs must be imported, however local industries are developing infrastructure to cater to BCL. This not only provides employment in the Province but keeps money in PNG, giving access to goods and services not normally available in a small community.

(Main photo): Bougainville Limestone Mining, a subsidiary of the Bougainville Development Corporation. BCL's hydrated lime was originally purchased from Japan, however the limestone mine is now capable of providing all the Company's requirements. The limestone mine is now looking at marketing its excess production of hydrated lime elsewhere. (Left inset): Drilling at the limestone mine.

(Right inset): One of the many transport companies servicing BCL, mostly used to carry goods from the Port at Loloho to the mine in Panguna.

lowest level in real terms since the 1930's. The scheduling of several large copper projects to come on stream in the near future make it difficult to foresee any major improvement in the copper price in this decade. The copper price opened the year at US63c/lb and fluctuated within the US58-67c/lb range before closing at US61c/lb. The annual average copper price was US62c/lb compared with US64c/lb in 1985.

As a result of high real interest rates, returns for investors in financial markets continued to limit interest in precious metals during the first half of the year. This sentiment changed in the second half due to concern over the outlook for economic growth, uncertainty over the future level of the US dollar and pressures for further reductions in interest rates. Buoyed by the extraordinary demands for gold for commemorative coins in Japan and the USA throughout 1986 and aided by the political situation in southern Africa, investment in precious metals increased. The gold price commenced the year at US\$327/oz and fluctuated within the US\$326-439/oz range before closing at US\$389/oz. The average gold price for 1986 was US\$368/oz compared with US\$317/oz in 1985.

The copper concentrate market in the last three to four years has been in relatively short supply. This has led to major cutbacks in Japanese smelter production rates and to reduced treatment charges worldwide. These lower treatment charges continued into 1986. The Company made sales of concentrates to Japan, West Germany and Spain under long term contracts and to South Korea and China under shorter term agreements.

During 1986 two factors had an impact on the custom concentrate market. Firstly, currency realignments have depressed Japanese demand for copper and have had an adverse impact on the competitiveness of a significant portion of Japan's smelting industry. Voluntary cutbacks in total copper production may now become permanent and may require a rationalisation of the Japanese smelting industry. Secondly, these currency induced pressures on demand occurred when several new producers sought to make sales of copper concentrate, alleviating in the short term, some of the shortage of concentrate supply.



The net effect has been pressure from the Japanese smelters to increase the level of treatment charges for 1987 and beyond. This approach has been followed by other custom smelters.

The Company has renewed its short term arrangements with South Korea for 1987. Negotiations for the renewal of the long term contract with the Japanese are expected to be concluded by the end of March 1987 when the existing 15 year contract expires.

Shipping contracts for the transport of concentrates to Europe have been arranged for the next five years at attractive rates, taking advantage of the depressed world shipping market.

**Finance:** Improved profitability in 1986 allowed a further reduction in loan balances to K28.8 million (1985 K36.5 million) and a substantial increase in cash balances to K50.9 million (1985: K21.1 million).

The Company's Revolving Credit Facility was amended during the year to provide a Multioption Facility by adding underwritten Euronotes and Bankers Acceptance options to the existing short term Advances facility. The amended US\$115 million Facility has the advantage of lower interest rates and will provide the Company with competitive financing through into the 1990's. In addition, uncommitted Bankers Acceptances of US\$235 million were in place at year end.

Currency exchange rates continued to be volatile throughout 1986 with the Yen and Deutschemark strengthening against the US dollar. Early in the year the Kina was carried by the strength of the Yen and despite a significant weakening of the Australian dollar

Bougainville Copper and rural development:

The Community demand for food and consumer goods is substantial. Local rural industry is encouraged to provide fresh produce, thereby replacing imports. Local industries have developed beyond the village scale into full commercial enterprises.

(Main photo): Food at a Company mess, where food is provided for over 1500 single employees. Wherever possible local produce is used.

(Left inset): Egg production at the Mananau layer project run by Bougainville Copper Foundation — a charitable body sponsored by BCL with the broad aim of improving the welfare and development of the people of Papua New Guinea.

(Right inset): Purchasing of fish for the mess from a local fishing business.

mid year, the Kina has remained firm against other currencies. The Kina closed at 1.0404 against the US dollar.

Interest costs for the year of K2.9 million were lower than in 1985 (K4.4 million) due to smaller loan balances and lower US interest rates. Higher interest rates in Papua New Guinea and Australia and higher cash balances increased interest earned for the year to K5.4 million (1985: K1.9 million).

No significant increases in the Company's borrowings are expected in 1987.

**Personnel:** Total Company employment at the end of 1986 was 3 699 (1985: 3 652) of which 2 993 (1985: 2 948) or 81% were Papua New Guinea citizens.

The Company continued to emphasise training and staff development programs to ensure that the skills required to maintain and improve productivity are available. The 1986 formal training program covered 377 employees, including 291 apprentices, 20 post-trade trainees and 61 graduate trainees. Twenty four apprentices received their indentures in 1986. Additionally, a total of 411 employees attended supervisory and management courses. Two cadets, for professional careers, were recruited and commenced study in Australian high schools. The Company provided assistance to 22 employees in full-time study for tertiary qualifications in Papua New Guinea and overseas.

The Company received Government approval for the 1986-89 Training and Localisation Program. This approval provides the basis for the continued employment of non-nationals in prescribed categories over the next three years.

A total workforce health survey was completed showing that health is generally good and similar to that of comparable mining companies. Occupational health and safety programs continue with increasing numbers participating in Company sponsored personal fitness activities. There has been a large decrease in the incidence of workplace injuries this year compared with 1985.



The Company is proud of the safety performance of its employees, a performance that is commendable in the mining industry for both Papua New Guinea and Australia.

Law and order problems in the community have continued to be significantly less than in other urban areas of Papua New Guinea. This is attributed to the generally better social environment on Bougainville Island and to the continued close co-operation between the Company's security services and the police.

Environmental: The study of tailings disposal options was completed during the year. The chosen option was construction of a pipeline to transport tailings from the concentrator to the west coast of Bougainville where the material will be used to extend the delta of the Jaba River. The pipeline is economically, environmentally and technically the most suitable option. It will almost eliminate the use of the Jaba River system for disposal of tailings and will allow the Company to commence rehabilitation of the river system during the life of the mining operations. Construction will commence early in 1987.

Significant progress was made on the workplace environment program. Major achievements included the soundproofing of all the R170 haul trucks and acceptance of noise control measures through education of the workforce. These measures involve changes in work practices and increased use of hearing protective devices. Dust control measures have been improved in the primary crusher area.

Other ongoing research projects include the revegetation of areas around the mine site and in the Jaba River Valley.

**Capital expenditure:** Capital expenditure for the year totalled K44.0 million.

Expenditure of K23.0 million was incurred in 1986 on construction of the preconcentration screening plant. The 35 million tonnes per annum capacity plant will preconcentrate low grade ore and increase production at a competitive cost. The project is expected to be completed in early 1987 at a total cost of K34 million.

A commitment to spend over K60 million on a tailings pipeline was approved. It is planned to commence construction in 1987 and with completion by 1990. The relocation of part of the central workshops to allow for expansion of the pit was completed at a cost of K4.0 million.

A replacement program involving a K4.8 million Fujitsu mainframe computer and peripherals will improve computer reliability, increase processing power and provide for easier transfer of software. It will also become a sound base from which to commence office automation. Conversion to the new system commenced in 1986 and will continue during 1987.

In spite of the depressed metal price outlook the Company has maintained a policy of prudent investment in technological advancements in a thrust towards improved and more cost competitive operational efficiency.

P. W. Quodling, Managing Director 17th February, 1987

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Bougainville Copper and the cash economy:

BCL's presence in the North Solomons Province provides a cash stimulus to the local economy. The Company's wages, local expenditures, payments of Provincial rates and taxes, supplemented by similar contributions by the local industries supporting BCL all multiply the impact the Company has on the local economy.

This stimulus has developed the local economy much faster than the rest of PNG with the North Solomons Province unemployment lower and per capita income higher than the national average.

(Main photo): Payment of wages to BCL employees. (Left inset): One of the banks in Arawa township. (Right inset): The Arawa supermarket of Arawa Enterprises Ltd.

### **Directors' Report**



The Directors of Bougainville Copper Limited present their report on the audited financial statements of the Company and its subsidiaries ("the Group") for the year ended 31 December, 1986.

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



D. S. Carruthers (Chairman) *Age 56 B.Sc.* 

Joined CRA in 1955. Extensive exploration and operational mining experience. CRA Group Executive since November 1984. Member of International Energy Agency's Coal Industry Advisory Board 1980-1985. Appointed Chairman of BCL July 1986.



G. Billard

Age 42 B.Ec.(Hons), B.Com.,A.A.U.Q., FA.S.A. Joined CRA 1969. Nine years with BCL, including three years as Executive Manager – Commercial. Currently Managing Director Australian Associated Smelters.



W. J. N. Davis

Age 52 B.Met.Eng., FR.M.T.C. Joined CRA in 1958. Commenced with BCL in 1967 and appointed Executive Manager – Concentrator in 1979. Currently Vice-President Technological Resources, CRA.



P. G. F. Henderson, A.C. *Age 58 M.A. Oxon*.

Joined Australian Department of Foreign Affairs 1951. Ambassador to the Philippines 1973-74. Deputy Secretary 1976-79. Secretary 1979-84. Retired Commonwealth Public Service 1985.



P. W. Quodling, O.B.E. (Managing Director) Age 60 B. Com., A.A.U.Q., FA.S.A. Joined CRA in 1956. Commenced BCL 1966. General Manager 1977 until appointed Managing Director in 1982.



J. T. Ralph

Age 54 F.A.S.A., C.P.A.
Thirty-seven years with CRA Group. Director
of CRA since 1971; appointed Managing
Director CRA 1983, and Chief Executive Officer
1987. Chairman of Comalco Limited since 1980.



W. D. Searson Age 37 B.Sc.

Secretary, PNG Department of Minerals & Energy since October 1983. Experience in mining industry. Citizen of Papua New Guinea.



D. C. Vernon

Age 58 Dipl.Chem.Eng. Commenced CRA Group 1953 and Director of CRA 1979-86. Joined BCL in 1966; appointed General Manager 1973 and Managing Director 1975. Chairman of BCL from 1979 to July 1986. Patron of Australia-PNG Business Co-operation Committee. W. D. Searson and D. C. Vernon retire in accordance with the Company's Articles of Association and being eligible offer themselves for re-election as Directors of the Company.

Activities: Bougainville Copper Limited has produced concentrate containing copper, gold and silver from a mine at Panguna, North Solomons Province, Papua New Guinea, since 1972. The Company has two subsidiaries. Bougainville Copper Finance N.V. is incorporated in the Netherlands Antilles for fund raising purposes. BCL (Hong Kong) Limited arranges shipping contracts on behalf of the Company.

Net Earnings: The net earnings of Bougainville Copper Limited and its subsidiaries for 1986 totalled K45 314 000 after providing K47 345 000 for depreciation and amortisation, K4 328 000 for royalties and K28 716 000 for income tax.

**Taxation:** Taxation of K28 716 000 charged to earnings comprises K30 481 000 current tax and a reduction of K1 765 000 in the provision for future tax.

**Subsidiaries:** No subsidiaries were disposed of during the year. No dividends were paid by Bougainville Copper Finance N.V. or BCL (Hong Kong) Limited.

**Share Capital:** There was no change in the Company's capital structure during the year.

Exchange Fluctuations: Exchange losses of K1 219 000 were realised on the repayment of United States dollar loans. Provisions raised against unrealised exchange losses on overseas borrowings were K495 000. In addition, exchange gains of K1 377 000 arose on the translation of overseas bank balances. These gains and losses are included in 1986 earnings.

Long Term Loans: Drawdowns of K13 944 000 were made during the year against long term loan arrangements. Repayments of K20 635 000 were made against existing loans, leaving a balance outstanding at the end of the year of K28 841 000.

**Dividends:** An interim dividend of four toea per share was paid in November. A final dividend of 7 toea per share has been declared and is payable on 1 May, 1987. Withholding tax is deducted from dividends where required by the Chief Collector of Taxes.

**Review of Operations:** A review of the operations of the Company during the financial year and the results of those operations are set out in the section entitled "Review of Operations", in this Annual Report (Pages 6 to 13).

**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, 1986, and the date of this report, 17 February, 1987.
- 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. Except as reported in this Annual Report, there were no significant changes in the state of affairs of the Group that occurred during the financial year.
- 2. Save as contained in the Report and as set out in the notes to the accounts the results of the operations of the Group or of a corporation in the Group during the financial year were not in the opinion of the directors substantially affected by any item, transaction or event of a material and unusual nature.
- 3. 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, is likely to affect substantially the results of the operations of any corporation in the Group during 1987.
- 4. Save as reported in this Annual Report, there were no matters or circumstances which have arisen since the end of the financial year and which significantly affected or may significantly affect:
  - (i) the operations of the Group
- (ii) the results of those operations or
- (iii) the state of affairs of the Group in the financial year subsequent to 31 December, 1986.

- 5. The Directors do not have an interest in any contract or proposed contract with the Company, are not parties to any material contract involving Directors' interests, and are not in receipt of any loans or benefits other than the aggregate amount of emoluments received or due and receivable by Directors shown in the accounts and the amount of fixed salary derived from the Company or from a related corporation.
- 6. No options over shares of the Company or its subsidiaries have been granted by the Company or its subsidiaries during the financial year or since the end thereof; no shares of the Company or its subsidiaries were issued during the financial year or have been issued since the end thereof by virtue of the exercise of any option granted by the Company or its subsidiaries; and no options over shares of the Company or its subsidiaries are outstanding at the date of this Report.

Signed this 17th day of February, 1987 in accordance with a resolution of the Directors of Bougainville Copper Limited.

D. S. Carruthers Chairman

P. W. Quodling A Managing Director

## 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 Domestic 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.

Value added				
Sales made to external customers Other income	337.3 5.4		315.7 	
Total income		342.7		317.6
Less: Materials and services brought in from outside the Company Total Value Added available for distribution		163.2 179.5		164.6 153.0
Distribution				
Wages, salaries and benefits to EMPLOYEES Taxation and royalties to GOVERNMENT To PROVIDERS OF CAPITAL Dividends to shareholders Interest to lenders	44.1 2.9	51.0 33.0 47.0	28.1 4.4	50.0 22.9 32.5
RETAINED in business to provide for asset replacement, expansion and protection of the Company and its employees in less favourable times.				32.5
Depreciation and amortisation Retained earnings	47.3 1.2	48.5	47.6 	47.6
Total Value Added distributed		179.5		153.0

1986

K mill.

1985 K mill.

### Distribution of Value Added

Sales and other income for the year amounted to K342.7 m.



Employees K51.0 m.

Government K33.0 m.

Providers of capital K47.0 m.

Retained in business K48.5 m.

Less materials and services of K163.2 m.

Leaves value added of K179.5 m for distribution.

## **Funds Statements**

year ended 31 December, 1986 Bougainville Copper Limited		Cons	olidated		ainville r Limited
O		1986	1985	1986	1985
	Notes	K'000	K'000	K'000	K'000
Sources of Funds					
From operations					
Earnings before tax		74 030	47 130	74 009	47 137
Add items not using funds					
Depreciation and amortisation		47 345	47 597	47 345	47 597
Loss on disposal of non-current assets		4 240	2 587	4 240	2 587
Other items not using funds		3 072	544	3 072	544
		128 687	97 858	128 <b>666</b>	97 865
Proceeds from loan drawdowns		13 944	42 053	13 944	42 053
Proceeds on disposal of non-current assets		806	293	806	293
Total sources of funds:		143 437	140 204	143 416	140 211
Applications of Funds					
Distribution to shareholders					
Dividend payment		36 095	16 042	36 095	16 042
Retiring debt					
Loan repayments		20 635	57 206	20 635	57 206
Acquiring non-current assets					
Property, plant and equipment		43 953	32 781	43 953	32 781
Income tax payment		18 870	15 193	18 870	15 193
Long service leave payments Investments		816	770	816	770
		600		600	
Total applications of funds:		120 969	121 992	120 969	121 992
Increase in working capital for the year		22 468	18 212	22 447	18 219
Movements in working capital					
Bank balances and short term deposits		29 809	6 667	30 040	6 440
Debtors for sale of concentrate		5 274	2 986	5 274	2 986
Other debtors		1 893	(1 762)	1 888	(1 769)
Stocks and stores		(7 329)	(356)	(7 329)	(356)
Creditors		(7 179)	10 <sup>°</sup> 677 <sup>′</sup>	(7 426)	10 918
Increase in working capital for the year		22 468	18 212	22 447	18 219
2 1					

### **Simplified Funds Statement**

Acquiring non-current assets K44.0 m.
Retiring debt K20.6 m.
Distribution to shareholders K36.1 m.
Income tax paid K18.8 m.
Long service leave & investments K1.4 m.
Increase in working capital K22.5 m.

From operations K128.7 m.
Loan drawdowns K13.9 m.
Disposal of non-current assets K0.8 m.

Acquiring non-current assets K44.0 m.
Retiring debt K20.6 m.
Distribution to shareholders K36.1 m.
Income tax paid K18.8 m.

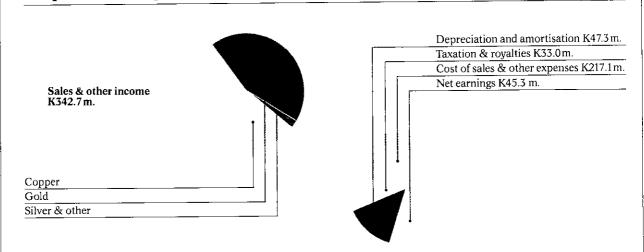
Long service leave & investments K1.4 m.
Increase in working capital K22.5 m.

Statements of Earnings

year ended 31 December, 1986 Bougainville Copper Limited		Consolidate <b>1986</b> 1		Bougainville ted Copper Limited 1985 <b>1986</b> 1985		
	Notes	K'000	K'000	K'000	K'000	
Income						
Net sales revenue		337 254	315 670 1 926	337 254 5 440	315 670 1 924	
Other income (net)		5 442		342 694	317 594	
_		342 696	317 596	342 094	317 394	
Costs and expenses		213 738	213 198	213 757	213 189	
Costs of sales, general and administration expenses Depreciation and amortisation		47 345	47 597	47 345	47 597	
Government royalties		4 328	3 892	4 328	3 892	
Interest		<u>2 918</u>	4 401	2 918	4 401	
		268 329	269 088	268 348	269 079	
Net exchange losses	5	337	1 378	337	1 378	
Earnings before taxation	2	74 030	47 130	74 009	47 137	
Income tax	2 3	28 716	<u>19 016</u>	28 716	19 016	
Net earnings for year Add:		45 314	28 114	45 293	28 121	
Retained earnings brought forward		154 204	154 164	154 211	15 <u>4 164</u>	
Thomas out the second of the s		199 518	182 278	199 504	182 285	
Less:						
Ordinary dividends Interim paid		16 043	8 021	16 043	8 021	
Final payable		28 074	20 053	28 074	20 053	
•a. Ka		44 117	28 074	44 117	28 074	
Retained earnings carried forward		155 401	154 204	155 387	154 211	
Net earnings per share (toea)		11.3	7.0	11.3	7.0	

All amounts are expressed in Papua New Guinea kina. Rounding to the nearest thousand kina has been adopted. The notes commencing on page 20 form part of these accounts and are to be read in conjunction with them.

### **Simplified Earnings Statement**



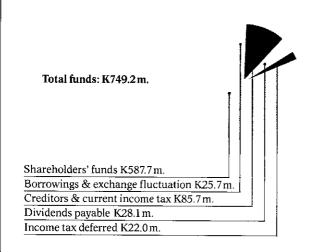
## **Balance Sheets**

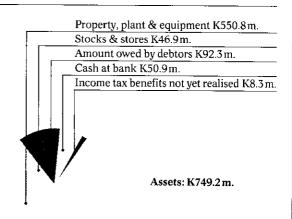
at 31 December, 1986 Bougainville Copper Limited		Cons	olidated		gainville er Limited
	Notes	1986 K'000	1985 K'000	1986 K'000	1985 K'000
		1,000		1,000	
Funds employed by the group: Shareholders' funds					
Paid up capital	4	401 063	401 063	401 063	401 063
Asset revaluation reserve		31 276	31 276	31 276	31 276
Retained earnings		155 401	154 204	<u>155 387</u>	154 211
		587 740	<u>586</u> 543	587 726	586 550
Exchange fluctuation	5	(3 170)	(5 890)	(3 170)	(5 890)
Non-current liabilities	•				
Deferred income tax liability	3	22 021	24 452	22 021	24 452
Loans	6	27 268	30 387	27 268	30 387
Provision for long service leave	,	7 045	6 502	7 045	6 502
		56 334	61 341	56 334	61 341
Current liabilities					***
Loans	6 7	1 573	6 152	1 573	6 152
Creditors	7	47 784	40 605	47 775	40 349
Income tax		30 878	19 267	30 878	19 267
Dividends payable	-	28 074	20 053	28 074	20 053
	_	108 309	86 077	108 300	85 821
Total funds		749 213	728 071	749 190	727 822
These funds are represented by: Non-current assets	-		······································		<del></del>
Future income tax benefit	3	8 299	8 965	8 299	8 965
Investments	8	756	156	765	165
Property, plant and equipment	9 .	550 081	558 520	550 081	558 520
	_	<u>559</u> 136	567 641	559 145	567 650
Current assets					
Bank balances and short term deposits		50 915	21 106	50 8 <del>99</del>	20 859
Debtors for sale of concentrate		84 980	79 706	84 980	79 706
Other debtors Stocks and stores	10	7 330	5 437	7 314	5 426
otocks and stores	11	46 852	54 181	46 852	54 181
The Avil	-	190 077	160 430	190 045	160 172
Total assets		749 213	728 071	749 190	727 822
	-			=	

Details of commitments and contingent liabilities are shown in notes 13 and 14.

All amounts are expressed in Papua New Guinea kina. Rounding to the nearest thousand kina has been adopted. The notes commencing on page 20 form part of these accounts and are to be read in conjunction with them.

### **Simplified Balance Sheet**





### Notes to the Accounts

These notes form part of the 1986 accounts and consolidated accounts of Bougainville Copper Limited and should be read in conjunction with them.

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 and conform in all material respects with International Accounting Standards which have been adopted in Papua New Guinea. 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 in 1980 of certain major items of property, plant and equipment.

#### Depreciation and Amortisation:

Depreciation and amortisation are determined by dividing the written down value of assets by their remaining useful life or the remaining life of the mine whichever is the lesser. Depreciation commences in the month following commissioning ready for use.

Exploration, Research and Development Expenditure:

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

#### Repairs and Maintenance:

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

#### Valuation of Stocks and Stores:

Concentrate stocks are valued at the lower of direct production cost or net realisable value. Cost includes direct materials, services and overheads, but excludes depreciation and indirect overheads. Stores are valued at weighted average cost, excluding transportation costs, less an allowance for inventory writedown.

#### Net Sales Revenue:

Sales are recognised when the risk passes from the seller which is at the time when the concentrate enters the ship's hold. The final sales value can only be determined from weights, assays, prices, exchange rates and treatment charges applying after a shipment has arrived at its destination. Estimates based on world metal prices ruling up to year end are used for those shipments not due for final valuation until the following year. In addition, the estimated results of forward contracts existing at year end in relation to concentrates shipped are reflected in sales revenue. Variations in revenue arising from final pricing and outturn adjustments are recognised in the following year. Unrealised gains and losses on forward metal sales, not related to shipments, are included in earnings before tax.

#### Taxation:

Tax effect accounting procedures are followed. The current liability for income tax is based on estimated taxable income for the year. The components of this taxable income differ from those which make up the earnings before tax for the year and these differences are either permanent differences or timing differences. Permanent differences are disclosed in Note 3. Timing differences arise because some items of revenue and expenditure are recognised for tax purposes during periods which differ from the periods in which they are included in earnings before tax. The tax effect of these timing differences is classified as either deferred income tax liability or future income tax benefit in the balance sheets.

#### Foreign Currency:

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 on overseas borrowings are recorded as deferred income or deferred expense and are amortised over the period of the related borrowings, with the unamortised balance being reflected in the balance sheets under exchange fluctuation. Other monetary gains and losses are recognised as they occur. Exchange differences relating to foreign currency borrowings which are refinanced prior to maturity, from the proceeds of replacement borrowings in the same currency, and from the same lender, continue to be carried forward and amortised over the remaining period of the old borrowing or the new borrowing, whichever is the shorter.

#### Subsidiaries.

The Company has two wholly owned subsidiaries. Bougainville Copper Finance N.V. is incorporated in the Netherlands Antilles for fund raising purposes. BCL (Hong Kong) Limited, incorporated in Hong Kong, arranges shipping contracts on behalf of the Company. These companies have been consolidated in accordance with conventional consolidation principles.

	Consc <b>1986</b>	olidated 1985		inville Limited 1985
. —	K'000	K'000	K'000	K'000
<ol><li>Earnings before taxation</li><li>Earnings before taxation have been determined after allowing for</li></ol>	the following inc	come and ex	pense items:	
ncome:				
Interest on short term deposits Expenses:	5 442	1 926	5 440	1 924
Interest — on long term loans and standby facilities	2 844	4 359	2 844	4 359
– other	74	42	74	42
Provision for doubtful debts in respect of other debtors Provision for inventory writedown	<u>3</u>	7 500	3	500
Bad debts in respect of other debtors	8	2	8	300
Depreciation – on buildings	19 515	19 333	19 515	19 333
on plant, machinery and equipment	25 965 1 770	26 355	25 965 1 770	26 355
Amortisation — of mine property — of borrowing expenses	1 770 95	1 770 139	1 //0 95	1 770 1 <b>3</b> 9
Loss on disposal and retirement of fixed assets	4 240	2 587	4 240	2 587
Research and development expenditure	1 107	1 205	1 107	1 205
Directors' emoluments (Note 12)	12 85	10 91	12 84	10
Auditors' remuneration — auditing the accounts — other services	6	36	6	89 36
(The auditors have received no other benefits)	-			
<b>5. Taxation</b> a) Taxation on earnings for the year comprises:				
Current	29 638	19 352	29 638	19 352
Future	(1 094)_	<u>(936</u> )	(1 094)	(936
	28 544	18 416	28 544	18 416
Adjustments relating to previous years: Current	843	600	843	600
Future	(671)	_	(671)	-
	28 716	19 016	28 716	19 016
(b) The following reconciliation discloses the items which caused of earnings to vary from the income tax prima facie payable on re		come tax in	the statemer	nts
Income tax prima facie payable	25 903	16 495	25 903	16 498
Permanent differences		-7 ,33		
- double deduction allowable	(1 187)	(1 336)	$(1\ 187)$	(1 336
– non allowable depreciation – net losses not deductible	3 404 539	2 941 351	3 404 539	2 94 : 35 :
- other	(115)	(35)	(115)	(38
Adjustments relating to previous year	172	600	172	600
	28 716	19 016	28 716	19 016
(c)				
Deferred income tax liability:	24.452	25.225	24.452	25.00
Balance 1 January Charged to earnings: current year	24 452 (1 270)	25 995 (1 543)	24 452 (1 270)	25 999 (1 54)
prior year adjustments	(1 161)	(1 J <del>1</del> J)	$(1\ 270)$ $(1\ 161)$	(1 54.
Balance 31 December	22 021	24 452	22 021	24 452
(d)	-			
Future income tax benefit:				
Balance 1 January	8 965	9 572	8 965	9 572
Credited to earnings: current year	(176) (490)	(607)	(176) (490)	(60
	(マンリ)	_	(490)	
prior year adjustments Balance 31 December	8 299	8 965	8 299	8 965

			Consc <b>1986</b>	olidated 1985	Bouga Copper <b>1986</b>	ainville Limited 198
			K'000	K'000	K,000	K'006
<b>4. Capital</b> The authorised capital of K425 000 000 co The issued capital of the Company is 401 No change in authorised or issued capital	062 500 or	dinary shares o				
5. Exchange fluctuation (a) The movements in exchange fluctuation		s relating to ove		_		
Balance of unrealised (losses) 1 January Increase/(Decrease) due to currency me the year		luring	(5 890) 1 006	(5 269) (2 796)	(5 890) 1 006	(5 26 (2 79
Net amount debited to earnings			1 714	2 175	1 714	2 17
Balance of unrealised (losses) 31 Decen	nber	-	(3 170)	(5 890)	(3 170)	(5 89
(b) The net exchange (losses)/gains reflect Overseas borrowings Overseas cash balances	ted in earn	ings arise from:	(1 714) 1 377	(2 175) 797	(1 714) 1 377	(2 17 79
Net exchange (losses)		-	(337)	$\frac{737}{(1378)}$	(337)	(1 37
<ul> <li>(a) Total long term loans are repayable as f Within one year Later than one year</li> <li>Total outstanding obligations</li> </ul>	follows:	-	1 573 27 268 28 841	6 152 30 387 36 539	1 573 27 268 28 841	6 15 30 38 36 53
All loans are unsecured. (b) The following are the individual loans	which mak Interest	e up the total o		=======================================		36 33
Bank loans	Rate 1986	Repayable				
Multi Option Facility – Consortium of 14 banks (US dollars)	5.84%	1993	24 122	25 414	24 122	25 41
Multi Option Facility –	5.84% 11.94%	1993 1986	24 122 -	25 414 4 497	24 122 _	
Multi Option Facility – Consortium of 14 banks (US dollars) Standby Credit Facilities – Commonwealth Bank of Australia			24 122 		24 122 	4 49
Multi Option Facility – Consortium of 14 banks (US dollars) Standby Credit Facilities – Commonwealth Bank of Australia (Sterling) Other loans	11.94%	1986	24 122	4 497 29 911	_ 24 122	4 49 29 91
Multi Option Facility — Consortium of 14 banks (US dollars) Standby Credit Facilities — Commonwealth Bank of Australia (Sterling)  Other loans John Brown Engineering (US dollars)			24 122 4 719	4 497 29 911 6 628		4 49 29 91 6 62
Multi Option Facility — Consortium of 14 banks (US dollars) Standby Credit Facilities — Commonwealth Bank of Australia (Sterling)  Other loans John Brown Engineering (US dollars)	11.94%	1986	24 122	4 497 29 911	_ 24 122	4 49 29 91 6 62
Multi Option Facility — Consortium of 14 banks (US dollars) Standby Credit Facilities — Commonwealth Bank of Australia (Sterling)  Other loans John Brown Engineering (US dollars)  Total outstanding obligations	11.94%	1986	24 122 4 719	4 497 29 911 6 628		4 49 29 91 6 62
Multi Option Facility — Consortium of 14 banks (US dollars) Standby Credit Facilities — Commonwealth Bank of Australia (Sterling)  Other loans John Brown Engineering (US dollars)  Total outstanding obligations  7. Creditors  Trade creditors	11.94%	1986	24 122 4 719 28 841 28 429	4 497 29 911 6 628 36 539	24 122 4 719 28 841	4 49 29 91 6 62 36 53
Multi Option Facility — Consortium of 14 banks (US dollars) Standby Credit Facilities — Commonwealth Bank of Australia (Sterling)  Other loans John Brown Engineering (US dollars)  Total outstanding obligations  7. Creditors Trade creditors Other creditors Related corporations:	11.94%	1986	24 122 4 719 28 841	4 497 29 911 6 628 36 539	24 122 4 719 28 841 28 429 17 359	4 49 29 91 6 62 36 53 23 26 15 93
Multi Option Facility — Consortium of 14 banks (US dollars) Standby Credit Facilities — Commonwealth Bank of Australia (Sterling)  Other loans John Brown Engineering (US dollars)  Total outstanding obligations  7. Creditors  Trade creditors Other creditors	11.94%	1986	24 122 4 719 28 841 28 429	4 497 29 911 6 628 36 539	24 122 4 719 28 841	25 41 4 49 29 91 6 62 36 53 23 26 15 93

			Bougainville	
	Cons <b>1986</b>	olidated 1985	Coppe <b>1986</b>	r Limited 1985
	K,000	K'000	K'000	K'000
8. Investments				
Unquoted shares at cost in:				
Subsidiary companies		156	9	150
Other companies Total	<u>756</u> 756	156 156	756 765	156 165
Total				100
9. Property, plant and equipment				
(a) Mine development and buildings	200 504	001.070	200 =04	201.076
at directors' 1980 valuation     Less accumulated depreciation	290 504 105 712	291 930 90 928	290 504 105 712	291 930 90 928
2000 decamanded depreciation	184 792	201 002	184 792	201 002
- at cost	79 976	76 874	79 976	76 874
Less accumulated depreciation	16 542	12 907	16 542	12 907
	63 434	63 967	63 434	63 967
Net mine development and buildings	248 226	264 969	248 226	264 969
(b) Plant, machinery & equipment  — at directors' 1980 valuation	255 505	262 771	255 505	262 771
Less accumulated depreciation	255 505 116 172	262 731 107 057	255 505 116 172	262 731 107 057
	139 333	155 674	139 333	155 674
– at cost	150 599	138 574	150 599	138 574
Less accumulated depreciation	44 909	32 921	44 909	32 921
	105 690	105 653	105 690	105 653
Net plant, machinery & equipment	245 023	261 327	245 023	261 327
(c) Mine property  — at cost	62 121	62 121	62 121	62 121
Less accumulated amortisation	39 123	37 352	39 123	37 352
Net mine property	22 998	24 769	22 998	24 769
(d) Capitalised borrowing expenses		_		
- at cost	782	782	782	782
Less accumulated amortisation	742	647	742 40	647
Net capitalised borrowing expenses  (e) Capitalised works in progress	40	135	40	135
- at cost	33 794	7 320	33 794	7 320
Total property, plant & equipment — at cost or valuation Less accumulated depreciation/amortisation	873 281 323 200	840 332 281 812	873 281 323 200	840 332 281 812
Net book value	550 081	558 520	550 081	558 520
ivet book value	330 081		330 081	336 320
10. Other debtors				
Other debtors and payments in advance	7 360	5 452	7 344	5 441
Provision for doubtful debts Related corporations	(32)	(31) 16	(32)	(31 16
Total	7 330	5 437	7 314	5 426
11. Stocks and stores				
Unshipped concentrate Stores	9 041 39 311	10 648 45 033	9 041 39 311	10 648
Stores Provision for stores obsolescence	(1 500)	45 033 (1 500)	(1 500)	45 033 (1 500
Total	46 852	54 181	46 852	54 181

#### 12. Directors' emoluments

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

K'000

1985 Related Company Corporations Company Corporations K'000 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

5 12

1986

Related

K'000

31

10

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

#### 13. Commitments

The commitments for capital expenditure not reflected in the financial statements total approximately K9 963 000 (1985: K9 047 000).

Operating lease commitments not reflected in the financial statements total approximately K3 391 000 (1985: K6 402 000).

#### 14. Contingent liabilities

Bougainville Copper Limited is contractually obliged to reimburse Shell Papua New Guinea Pty Limited for any retail sales tax payable by Shell on petroleum products sold to the Company. A claim for retail sales tax amounting to approximately K4 663 000 has been lodged by the North Solomons Provincial Government. However, the validity of the tax is being disputed by both Shell Papua New Guinea Pty Limited and the Company. Bougainville Copper Limited has guaranteed the performance of its subsidiary BCL (Hong Kong) Limited in its obligations under a lease agreement with Citicorp Commercial Finance (Hong Kong) Limited to a limit of US\$1000000.

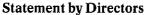
#### 15. Mining Tenements

The Company holds 100% interest in leases; 1, B9, B6, B8, B7, B10, B3 and prospecting authorities 1, 2, 3, 4, 5, 6, 7A and 7B on Bougainville Island.

#### 16. Holding company

The holding company is CRA Limited (incorporated in Australia).

## **Declarations**



SEE SECTION S

In the opinion of the Directors of Bougainville Copper Limited the accompanying statements of earnings and funds statements are drawn up so as to give a true and fair view of the results of the business of the Company and its subsidiaries 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 subsidiaries at the end of that period.

Signed at Port Moresby this 17th day of February, 1987. On behalf of the Board D. S. CARRUTHERS Chairman. P. W. QUODLING Managing Director.

#### **Declaration by Secretary**

I, Peter Robert Taylor, Secretary of Bougainville Copper Limited, do solemnly and sincerely declare that the accompanying balance sheets, statements of earnings and funds statements of the Company and its subsidiaries 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 17th day of February, 1987. P. R. TAYLOR Secretary. Before me: M. S. LELA Commissioner for Oaths.

## Auditors' Report to the Members

We have audited the balance sheets, statements of earnings and the funds statements (the accounts) set out on pages 17 to 24 in accordance with generally accepted auditing standards.

In our opinion:

(a) the accounts are properly drawn up in accordance with the Companies Act (Chapter 146), and so as to give a true and fair view of the state of affairs of the Company and of the Group as at 31st December, 1986, and are in accordance with generally accepted accounting standards;

(b) the accounting and other records, including registers, examined by us have been properly kept in accordance with the Act.
COOPERS & LYBRAND by B. J. Davies
Registered under the Accountants
Registration Act (Chapter 89).
Port Moresby, on 17th day of February, 1987.

## **Shareholdings**

#### Distribution of shares

As at 17th February, 1987: 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 24 680.

The distribution of holdings of the issued shares was:

1- 1 000 shares	19 839
1 001- 5 000 shares	4 037
5 001-10 000 shares	475
10 001 shares and over	329
Total shareholders	24 680

90.6% of the total issued shares were held by the 20 largest shareholders. The substantial shareholders were:

CRA Limited and its wholly-owned subsidiary C.R.A. Base Metals Pty. Limited – 214 887 966 shares (53.6%):

(53.6%);
The Rio Tinto-Zinc Corporation
PLC has an interest in the same
shares through its wholly-owned
subsidiaries (R.T.Z. Australian
Holdings Pty Limited and Tinto
Holdings Pty. Limited), interests
in CRA Limited and C.R.A. Base
Metals Pty. Limited.
The Independent State of Papua
New Guinea — 76 430 809 (19.1%).

Ten largest shareholders

The ten largest shareholders at 17th February, 1987 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. 20 322 019

National Nominees Limited, Melbourne, Vic. 9 320 900

Indosuez Nominees Pty. Ltd.,

Melbourne, Vic. 9 000 357

National Nominees

Melbourne, Vic. 4 949 176

Bank of New South Wales

Nominees Ptv. Ltd.,

Sydney, N.S.W. 4 124 121

C.R.A. Base Metals Pty.

Limited, Melbourne, Vic. 4 099 452

Bougainville Copper Foundation Limited, Panguna, P.N.G. 3 600 000

Isit Nominees.

Melbourne, Vic. 2 255 666

344 891 014

#### Directors' interests

Directors' interests in the share capital of the Company and its related companies as at 17th February, 1987 were:

D. S. Carruthers 2 250 CRA shares

G. Billard 150 BCL shares W. J. N. Davis 1 212 BCL shares

1 096 CRA shares P. G. F. Henderson, A.C. No interests

P.W. Quodling, O.B.E. No interests

I.T. Ralph 171 BCL shares

J. T. Ralph 171 BCL shares 777 CRA shares

W. D. Searson 3 500 BCL shares D. C. Vernon No interests

Abbreviations:

BCL – Bougainville Copper Limited CRA – CRA Limited

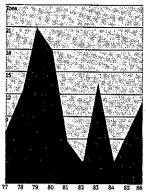


**Statistical Summary** 

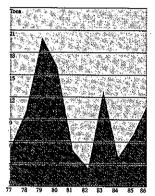
	3						
		1986	1985	1984	1983	1982	1981
Financial					<del></del>		
Earnings (K million) Net sales revenue and oth		342.7	317.6	310.9	392.9	283.2	296.4
Operating and other expe Depreciation	enses	221.1 47.3	221.5 47.6	234.8 46.5	228.1 47.0	207.2 44.2	210.8 43.3
Earnings before taxation Exchange gains/(losses)	and exchange gains	74.3 (0.3)	48.5 (1.4)	29.6 (2.8)	117.8 (16.3)	31.8 (3.3)	42.3 1.1
Earnings before taxation Taxation		74.0 28.7	47.1 19.0	26.8 15.2	101.5 46.9	28.5 17.3	43.4 20.6
Net earnings Dividends	•	45.3 44.1	28.1 28.1	11.6 16.0	54.6 52.1	11.2 10.0	22.8 20.1
Earnings retained		1.2		(4.4)	2.5	1.2	2.7
Balance sheet (K million Property, plant and equip Investments		550.1 0.7	558.5 0.2	576.2 0.2	594.9 0.3	622.8 0.1	611.2
Current assets Total assets		190.1 740.9	<u>160.4</u> 719.1	<u>152.9</u> 729.3	185.3 780.5	<u>155.9</u> - 778.8	148.7 760.0
Shareholders' funds		<del></del> = 587.7	586.5	586.5	<del>780.5</del> =	<del></del>	587.2
Exchange fluctuation Long term liabilities Current liabilities		(3.2) 48.1 108.3	(5.9) 52.4 86.1	(5.3) 52.5 95.6	(4.7) 51.6 142.7	(5.4) 125.6 70.2	1.5 80.1 91.2
Funds employed	•	740.9	719.1	729.3	780.5	778.8	760.0
7 1 1 10 10 1							
Production/Sales Mined							
Ore and waste removed Ore milled Ore grade	(millions of tonnes) (millions of tonnes)	79.16 47.89	73.62 50.07	74.74 46.52	81.00 47.73	76.22 41.74	77.56 37.53
Copper Gold	(per cent) (grams/tonne)	0.42 0.48	0.42 0.42	0.42 0.48	0.46 0.55	0.47 0.60	0.51 0.59
Silver	(grams/tonne)	1.38	1.21	1.34	1.42	1.48	1.55
Produced Concentrate	(thousands of dry tonnes)	586.6	581.8	542.3	636.9	598.6	576.4
Contained copper Concentrate grade	(thousands of dry tonnes)	178.6 30.5	175.0 30.1	164.4 30.3	183.2 28.8	170.0 28.4	165.4 28.7
Copper Gold	(per cent) (grams/tonne)	27.9	24.7	28.9	28.3	29.3 72.1	29.2 73.5
Silver Shipped	(grams/tonne)	85.9	79.3	81.9	74.4	/2.1	. 73.3
Total concentrate Shipped to:	(thousands of dry tonnes)	589.4	560.0	550.8	636.1	599.6	596.2
Ŵ. Germany Japan		207.3 244.4	163.5 246.9	144.4 286.1	216.7 298.7	217.1 279.7	206.0 296.9
Spain		37.0 100.7	61.5	52.6 67.7	50.5 70.2	53.3 49.5	64.7 28.6
Other Values		100.7	88.1	67.7	70.2	49.5	20.0
	ralue (before treatment and ht, etc.) (K million)	417.9	381.3	373.4	454.6	343.6	355.2
Copper Gold	(per cent) (per cent)	54 44	61 37	53 45	52 46	51 <b>4</b> 7	54 44
Silver	(per cent)	2	2	2	2	2	2
Other							
Average metal prices L.M.E. copper	(USc/lb)	62.3	64.3	62.4	71.9	67.1	79.0
London gôld market	(ÙS\$/oz.)	367.9	317.3	360.8	423.5	375.6	459.9
London silver market Return on shareholders' f	(US\$/oz.)	5.5 7.7	6.1 4.8	8.1 2.0	11.4 9.3	7.9 1.9	10.5 3.9
Earnings per share (toea)	***	11.3	7.0	2.9	13.6	2.8	5.7
Dividends in toea per full (par value, one kina) (1	.986 interim 4t/share)	11.0	7.0	4.0	13.0	2.5	5.0
Bonus dividend in toea p Number of shares issued	er fully paid share*** at end of year (millions)	401	401	401	401	401	401
Number of shareholders: Debt/equity ratio	at end of year	22 294 .05/1	27 117 0.06/1	30 435 0.09/1	32 834 0.10/1	36 486 0.20/1	38 027 0.17/1
Work force at end of year Overseas	(PN.G.)	706	704	749	751	756	801
National	•	2 993	2 948	2 987	3 058	3 174	3 377
Notes: * Full year figures	; but commercial production comm	enced 1 Apri	l 1972				

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

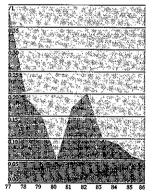
							-	•	
	1980	1979	1978	1977	1976	1975	1974	1973	1972*
								11.	
	338.7	343.1	225.1	205.3	208.9	193.1	292.6	252.4	95.9
_	174.8 43.8	144.1 40.7	125.0 40.4	126.8 36.2	117.5 31.1	107.2 29.6	92.5 28.5	81.8 24.8	53.3 14.5
	120.1 2.6	158.3 3.5	59.7 10.3	42.3 (0.1)	60.3 1.3	56.3 2.3	171.6 9.5	145.8 12.9	28.1 (0.4)
•	122.7	161.8	70.0	42.2	61.6	58.6	181.1	158.7	27.7
	51.2 71.5	77.9 83.9	<u>22.0</u> 48.0	13.7 28.5	20.3 41.3	12.4 46.2	66.5	0.3 158.4	27.7
-		80.2 3.7	40.1 7.9	$\frac{21.4}{7.1}$	26.7 14.6	26.7 19.5	73.5	77.0	11.0 16.7
•								77.0	10.7
	610.8 0.1	325.4 0.1	340.1 0.1	352.2 0.1	350.4 0.1	346.0 0.1	352.2 0.1	371.7 0.1	378.7 —
	148.4 759.3	201.0 526.5	125.8 466.0	137.1 489.4	136.0 486.5	129.5 475.6	205.6 557.9	130.4 502.2	73.9 452.6
•	<del></del>	294.5	317.5	309.7	302.5	<del></del>	268.4	227.4	146.7
	5.1 25.7	5.4 36.2	9.0 42.1	14.6 53.3	9.0 101.7	11.5 106.8	19.1 121.1	39.5 127.5	24.2 204.0
	<u>144.0</u> 759.3	<u>190.4</u> 526.5	97.4 466.0	111.8 489.4	73.3 486.5	69.4 475.6	149.3 557.9	107.8 502.2	77.7 452.6
:	739.3	320.3	400.0	405.4	460.5	473.0	337.9		432.0
								;	
	79.76 37.62	75.97 36.17	79.05 38.12	70.79 34.11	58.54 31.21	56.40 31.08	56.00 30.14	56.65 29.14	46.75 21.89
	0.46 0.50	0.55 0.75	0.60 0.82	0.61 0.90	0.64 0.87	0.64 0.80	0.70 1.02	0.73 1.03	0.76 0.77
	1.47	1.70	1.80	1.86	1.96	1.87	2.12	1.99	2.06
	510.4 146.8	584.7 170.8	658.6 198.6	615.6 182.3	596.8 176.5	596.0 172.5	640.8 184.1	650.2 182.9	438.1 124.0
	28.8	29.2	30.2	29.6	29.6	28.9	28.7	28.1	28.3
	27.5 72.2	33.7 76.3	35.5 79.8	36.3 77.0	33.9 76.1	30.5 71.0	32.0 72.3	31.6 69.0	27.3 69.3
	494.4	586.5	640.9	614.8	605.8	587.0	665.8	625.2	434.4
	163.7 269.4	187.6 328.2	206.8 326.7	198.3 337.1	223.2 256.4	243.5 250.7	221.4 343.2	200.3 342.9	186.8 209.0
	41.0 20.3	49.0 21.7	62.1 45.3	47.0 32.4	58.2 68.0	72.2 20.6	57.4 43.8	35.8 46.2	27.6 11.0
	20.0		.0.0	02/1	00.0	20.0	10.0	10.2	11.0
	386.3	407.0	294.5	266.3	260.3	219.4	307.4	270.8	118,8
	51 46	60 37	64 34	66 32	74 24	69 29	74 25	83 16	83 16
	3		2	2	2	2	1	1	1
							•		
	99.2 614.7	89.8 304.7	61.9 193.5	59.3 147.8	63.6 124.8	55.9 160.9	93.3 158.7	80.9 97.3	48.6 58.2
	21.0 16.3	11.0 27.4	5.4 15.30	4.6 9.3	4.4 14.0	4.4 16.6	4.7 46.2	2.5 84.1	1.7 18.9
	17.8	20.9	12.0	7.1	10.3	11.5	28.6	39.5	6.9
	16.0 4.0	20.0 6.7	10.0	5.3 —	6.7	6.7	18.3	20.0	2.7
	401 38 326	267 38 750	267 40 935	267 43 820	267 50 082	267 54 129	267 55 558	267 45 353	260*** 46 726
	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
	877 3 416	851 3 314	855 3 243	853 3 063	858 2 989	942 3 094	980 3 242	929 2 915	971 2 594
								,	<del></del> ,



Earnings per share



Dividend per share



Debt equity ratio\*
\*Ratio of year end loans outstanding to shareholders' fund

## **Exploration and Bougainville Copper**

Discovery: Prior to 1939 small quantities of gold were extracted from mines situated in the vicinity of Panguna and Kupei. Few signs of copper were evident at the surface as the area was covered by dense jungle and in significant areas mineralisation was concealed by superficial deposits of volcanic ash and boulder terrace. It was only after an intensive geochemical sampling program and an extensive diamond drilling program in the Panguna area that the presence of the orebody was established.

The geochemical sampling program was part of a search for porphyry copper orebodies launched in 1960 by CRA Exploration. In 1964 the search focused on Panguna and the surrounding district which is covered by Prospecting Authorities (PA's) held by Bougainville Copper. The PA's cover an area of 600 square kilometres. A special mining lease was granted in March 1969, pursuant to the Bougainville Copper Agreement, to enable it to evaluate the copper/gold orebody at Panguna.

The moratorium: Exploration in Papua New Guinea requires the granting of a PA. In 1969 after the Company's copper find at Panguna became public, applications were made for PA's by other companies covering almost the whole island. Bougainvillean discontent was created by the uncertain effects of widespread exploration. By notice in the Government Gazette dated 22nd April 1971, a moratorium was declared on the issuing of further PA's and mining tenements on Bougainville. Unaffected by the moratorium were the PA's held by the Company. However, by agreement with the National Government formalised in the 1974 Agreement renegotiations, the Company has not undertaken exploration on these PA's on condition that the Government maintains the Company's rights through automatic renewal of its PA's.

The moratorium has now been in place for over 15 years. During this time the Company has demonstrated its ability to develop a successful mining operation on a scale commensurate with other major mining developments around the world. This massive operation has successfully integrated with the lives and aspirations of the local population. Differences have occurred and exist but amicable solutions have been found.

The Company has also shown its willingness to make substantial investments to maintain its cost competitive position despite the dramatic fall in copper prices in recent years. These investments have allowed the Company to pay tax and dividends to the Government, consistently, since the inception of commercial operations.

At the national level the Company has contributed K815 million in dividends and direct taxation to the Papua New Guinea economy and has provided 46% of Papua New Guinea's total export earnings since 1972.

Lifting the Moratorium: All mines have a finite life and the Panguna deposit is no exception. On the basis of current mining rates and known recoverable proven ore reserves the Panguna deposit would be exhausted before the year 2000. As foreshadowed in this report, it is intended to review the reserves situation in light of the performance of the pre-concentration screening plant. Nevertheless, the Panguna deposit is not infinite.

As new deposits take considerable time to find, evaluate and bring into operation (the Panguna development took 9 years and Ok Tedi 17 years) it is prudent to consider the lifting of the moratorium so that the Company can resume exploration on Bougainville.

Knowledge gained from this exploration would allow development options to be considered which may include consideration of the continuity of operations at Panguna.

The exact nature and pace of any possible development of a new orebody would be dependent upon the extent of mineralisation, the grade, the distance from Panguna and expectations concerning metal prices.

Conclusion: The Company is in a unique position to assist in the further development of mineral deposits, which may exist on Bougainville Island, having demonstrated over the past 15 years its successful integration into the Papua New Guinea economy.

It must be noted that had the Panguna deposit been discovered in recent years it would not be commercially viable given the current expectation that real term copper prices will continue to be depressed for many years to come. However, the early lifting of the moratorium would allow the commercial potential of other mineral discoveries to be assessed so that the orderly and proper planning of the future of Bougainville Copper, the North Solomons Province and Papua New Guinea can take place.

#### **Exploration:**

A moratorium on exploration has blocked further mineral prospecting in the North Solomons Province since 1971. Relaxation of this moratorium is an essential prerequisite of BCL exploring prospects to ensure long term continuity of operations and the resultant flow on of benefits to National and Provincial economies.

(Photo): During the year, a West German aid-funded mineral survey was carried out by helicopter through PNG, including parts of Bougainville. Information from this survey could encourage serious review of the moratorium.

In the background is a helicopter, run by Heli-Bougainville. The helicopter is used mostly by BCI, but is also chartered to local industry to transport people and materials to Bougainville's many inaccessible areas.





# Bougainville Copper Limited Annual Report 1986