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THE INITIAL YEARS

Max Roberts commenced with Renison Goldfields Consolidated (RGC) in 1981 in the role of executive chairman. After an external search for a managing director and chief executive officer, in October 1983 David Elsum was appointed managing director. Elsum was the founding managing director of Capel Court investment bank, the adviser retained by the board of Consolidated Gold Fields Australia (CGFA) in 1980 when seeking an external valuation of its shares in the event that Consolidated Gold Fields increased its shareholding. Elsum's tenure was short-lived. By September of the following year he had left the company. The RGC announcement associated with his departure stated that 'his transition to mining [from finance] had proved more difficult than expected'.¹ Media reports indicated that he found mining a 'little slow', a surprising observation to say the least in light of the multiple challenges confronting RGC, including for its two key assets, Renison and Mount Lyell. Roberts resumed the role of executive chairman.

In April 1985 Campbell McCheyne Anderson's appointment as a director and managing director was announced. Anderson assumed the role of chief executive officer from January 1986. Roberts knew Anderson from their time working together at Burmah Oil and had been associated with him professionally and personally since 1971 both in the United States and United Kingdom. The two forged and maintained a close and productive working relationship. Both were strong individuals, with an irreverent sense of humour and strong intellect, and worked to build RGC into one of the major mining companies in the country.²

1 *The Sydney Morning Herald*, 2 April 1985 and 10 January 1985. Roberts said he was 'after someone with the knowledge and intelligence to look after the company' (Greenwood, 'Renison's Rocky Revival', p. 18).

2 See Appendix 3 for biographical profiles of Max Roberts and Campbell Anderson.



Figure 44. Campbell Anderson, managing director from 1985 and chief executive officer of Renison Goldfields Consolidated from 1986 to 1993.

Source: RGC company image held by author.



Figure 45. Mark Bethwaite, appointed deputy managing director in 1987 and managing director and chief executive officer from 1995 to 1998.

Source: RGC company image held by author.

Another key senior management appointment was FM (Mark) Bethwaite, a former Olympic sailor and managing director of North Broken Hill who joined the company in the newly created position of deputy managing director in February 1987.³ On the announcement of Bethwaite's appointment, it was indicated that he would be responsible for new business development, the group's investment division, and head office technical and computing functions.⁴ In effect, he operated in the role of chief operating officer, taking a close involvement in the oversight of mineral sands, Renison and Mount Lyell. The arrangement worked well, freeing up Anderson to consider broader strategic options, including acquisitions as well as direct engagement in extensive political negotiations, as occurred for Mount Lyell and Porgera. A disciplined and highly competitive man, Bethwaite succeeded Anderson as managing director in September 1993 and remained in this role until January 1998. Subsequent to his departure, the Hanson-appointed chairman, Tony Cotton, became executive chairman.

During the first half of the decade, market and operating conditions for RGC were challenging. From 1982 to 1985 RGC generated a return on assets of less than 3.5 per cent and return on shareholder funds of less than 5 per cent. The company recorded a loss of \$10 million in its first full year.⁵ By 1984, the expectations for the new publicly listed and majority Australian owned RGC had not been fulfilled. One business commentator wrote that RGC had been 'heralded as Australia's next big mining house in 1981' but had failed to live up to expectations and had, in fact, been 'something of a dog' in terms of share price performance in its first year of existence.⁶ In the three subsequent years profits increased from \$10 million to \$23 million in 1985, although the 1985 result was aided by \$10 million in financial support from the Tasmanian Government, as well as other forms of assistance, provided to Mount Lyell. It was an inauspicious beginning for the new mining company. The period 1985 to 1990 saw a recovery in the company's financial performance, with five

3 See Appendix 3 for a biographical profile of Mark Bethwaite.

4 RGC News Release, 'Appointment of Mr Mark Bethwaite as Deputy Managing Director', 16 February 1987 (copy held by the author).

5 The loss after tax of \$10.2 million included pre-tax extraordinary items of \$3.3 million, which included the write-down in the value of government and semi-government bonds (Renison Goldfields Consolidated Limited, *Annual Report 1982*).

6 Greenwood, 'Renison's Rocky Revival', p. 16.

consecutive years of profit growth, primarily aided by a marked recovery in the performance of the mineral sands business. The company recorded two outstanding years financially in 1989 and 1990 (see Chart 7).

In the period 1986 to 1990, the return on assets averaged 9.4 per cent and return on shareholders' funds averaged 21.8 per cent. The company's share price performed strongly before the 1987 share market crash, with RGC's standing in the investment market at its height. A series of stockbroker reports remarked favourably on the attributes of the company and its portfolio management capabilities. A London-based broking analyst in 1987 described RGC as 'one of the leanest, fittest and most profitable of the Aussie resource majors' with mineral sands 'one of the most profitable segments of the whole mining industry ... RGC is very much the dominant force in the minerals sands market'.⁷ Another lauded the company as 'a diverse, cost effective producer which protects it from many of the cycles in commodity prices'. As the largest producer of mineral sands this was expected to make it a 'market maker rather than taker'.⁸ RGC's balance sheet strength, interest cover and market capitalisation of over \$1.1 billion made the company highly marketable from an investment market perspective:

Renison Goldfields Consolidated ... has been one of the most successful mining houses in Australia over the last few years. Basically, RGC has chosen the right mix of commodities for the current cycle. The Company did not get involved in the coal boom in a major way and it concentrated on expanding into mineral sands and gold.⁹

7 Kleinwort Gieveson Securities, 'London Investment Research Renison Goldfields Consolidated', 10 July 1987, pp. 1 and 3, Brierley Collection.

8 May Mellor Laing & Cruickshank Ltd, 'Renison Goldfields Consolidated Ltd, June 1987', Brierley Collection.

9 Jardine Fleming, 'Renison Goldfields Consolidated', p. 1, Brierley Collection.

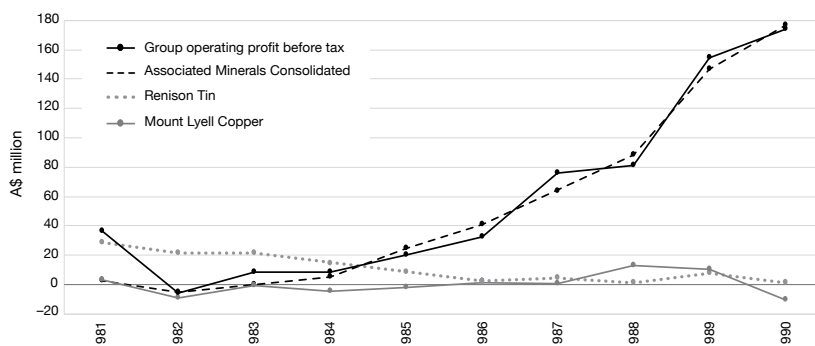


Chart 7. Renison Goldfields Consolidated group profit and principal divisional results, 1981–1990.

The chart displays the earnings contribution of Associated Minerals Consolidated, Renison and Mount Lyell over the period 1981 to 1990, along with the group's pre-tax earnings. The group pre-tax result is closely aligned with the AMC results in most years, as the contribution from Renison and Mount Lyell declined during the decade of the 1980s.

Source: RGC annual reports, 1981 to 1990.

The company during this period, and through to 1993, was under the managing directorship of Anderson. RGC invested broadly, establishing new gold mining operations in Queensland and the Northern Territory while laying the basis for the development of the large Porgera gold mine in Papua New Guinea that began production in 1990. Assets of the company increased by over 165 per cent. The company held bold ambitions. An external management consultant was appointed and, in a 1988 strategy review, the company stated its aim to become the tenth-ranking company in Australia by market capitalisation within five years and to be fourth behind BHP, CRA and Western Mining Corporation in 10 years.¹⁰

Renison, with its tin mining operations near Zeehan in Tasmania, remained the key asset in the portfolio. It was the one that the company had relied upon for the majority of its operating profit in the previous five years, and was expected to continue to make a major financial contribution.¹¹ However, the operations of the International Tin Council (ITC) had a major

10 Mark Bethwaite, 'RGC Memorandum 20th June 1988, Strategy Review 1988', Renison Goldfields Consolidated Archive (RGCA), Box 5345, RGC 3615.

11 The operating profit of CGFA between 1977 and 1981 was \$38.2 million, including losses from operations such as Mount Lyell (\$12.3 million). Renison was profitable in each year with a total operating profit of \$46.7 million (Renison Goldfields Consolidated Limited, 'Report on the 1981 Financial Year', p. 7).

influence on Renison's performance during the 1980s. Quotas on tin sales imposed by the ITC between 1982 to 1985 hampered production settings for Renison's operation and led to variable and lower financial performance through the decade, before entering the 1990s loss-making.

Mount Lyell recorded cumulative losses from 1982 through to 1985 but then, dependent on government and other financial support, achieved a recovery in financial performance before further losses in the 1990s. Mount Lyell's future remained a prime area of management and board consideration through the 1980s. Mineral sands had four very poor years before a partial recovery in 1985 and then a period of stronger financial performance through to 1990 (see Chart 9, Chapter 20).

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Figure 46. Mount Lyell operations, Queenstown, 1984.

Source: NAA, A6135, K20/2/2.

In 1981, RGC had acquired New Guinea Goldfields, a company that Gold Fields had invested in during the 1920s and 1930s. Apart from gold mining by alluvial and open cut methods, the acquisition involved an interest in various tyre retailing businesses as well as electricity distribution in Papua New Guinea. However, the main attraction of this acquisition was the exploration potential it was considered to provide in and around the area near Wau, where mining was conducted. Gold Fields exploration staff had visited the area in 1980 and identified compelling similarities to the Porgera deposit with what was viewed as a high likelihood of discovering large bulk, low-grade gold deposits.

Tennant Trading was acquired in 1982 from the ownership of Consolidated Gold Fields and was developed as a marketing vehicle for RGC. Tennant Trading had two main functions: marketing and shipping of ores and concentrates produced by the company and by other mining operations, as well as acting as an agency for the import and export of raw materials. This included metals and concentrates, metallurgical raw materials, industrial minerals and chemicals, as well as futures trading.

Organisationally, a major restructure occurred in 1983: Mount Lyell became the Mount Lyell copper division; a tin, gold and mineral sands division was also established. RGC also acquired the exploration interests held by Consolidated Gold Fields in Gold Fields Exploration, assuming responsibility from the prior arrangement, established in 1979, where funding of exploration expenditure in Australia and the Asia-Pacific region was shared with Consolidated Gold Fields in London. A share placement generated \$23 million, allowing the purchase of Consolidated Gold Fields' interest in New Guinea Goldfields, which was renamed New Guinea Gold Holdings. RGC also re-entered the share investment field by the establishment of an investment division in 1984.

Renison—external influences

During the first five years of RGC's existence, Renison remained the major contributor to overall group results, although its performance declined from 1981 and dramatically reduced for the rest of the decade. At the time the world's largest underground tin mine, its competitive position in terms of tin concentrate production was pitched against typically lower-cost, but often lower-grade alluvial mines. For Renison, the mining operation was characterised by a combination of greater fragmentation of the ore body and associated metallurgical challenges and a requirement for

deeper mining to access reserves to extend production. In the early 1980s, a more confrontational industrial relations environment developed. In 1980, for example, an estimated \$6 million in pre-tax profits was lost due to industrial disputes while in the following year industrial disputes also had an adverse impact on profits.¹² By 1981, after a strike lasting over five weeks, the industrial relations situation was viewed at board level as a 'matter of serious concern'.¹³ It did not improve noticeably until sustained efforts were made to improve communication between management and the workforce, following the appointment of MWD (Mike) Ayre as general manager.

Joe Pringle, president of the underground workers for the Australian Workers' Union, personified the tough and often combative industrial relations environment at Renison. Pringle had commenced at Renison in 1965. An old-style unionist, he operated on the basis of a handshake agreement being sufficient but became disenchanted with and antagonistic to the introduction of more formalised industrial relations arrangements. When an industrial relations function was established, he saw this as an additional layer of management reinforcing an increased detachment of those in control from the workforce. These factors, as well as decisions he considered antithetical to the welfare of the workforce—such as mine management evicting the widow and two daughters of a recently killed mine worker from company housing—created an antagonistic attitude to management.¹⁴

The Australian Workers' Union demonstrated its willingness to act in a belligerent and uncooperative manner. A dispute in late 1984 related to remuneration relativities of one of the 25 designated categories for underground work proceeded to the Australian Conciliation and Arbitration Commission. After exhaustive deliberations that upheld the existing arrangements, the Australian Workers' Union ignored the commission's ruling and reimposed bans.¹⁵ The industrial relations environment, associated with the actions of the ITC—in first imposing sales constraints and then the release from late 1985 of excess global stocks onto the tin market—compounded the challenges facing the operation.

12 Consolidated Gold Fields Australia Limited, 'Minutes of Meeting of Directors', 23 April 1980, p. 4, RGCA, Box 12272.

13 Renison Goldfields Consolidated, 'Minutes of Meeting of Directors', 5 November 1981, p. 4, RGCA, Box 11328, BRD 38.

14 Joe Pringle, personal communication, 20 October 2018.

15 National Archives of Australia, Victoria, B206, C6578/1984.

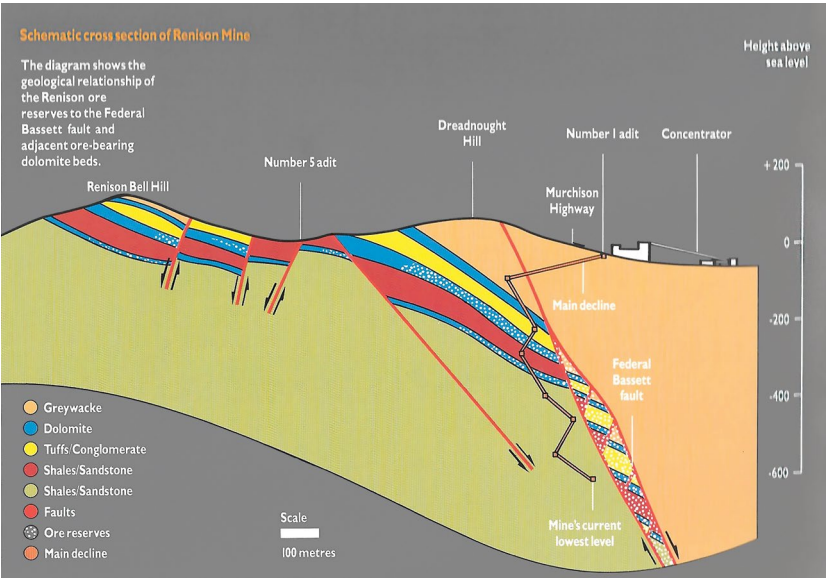
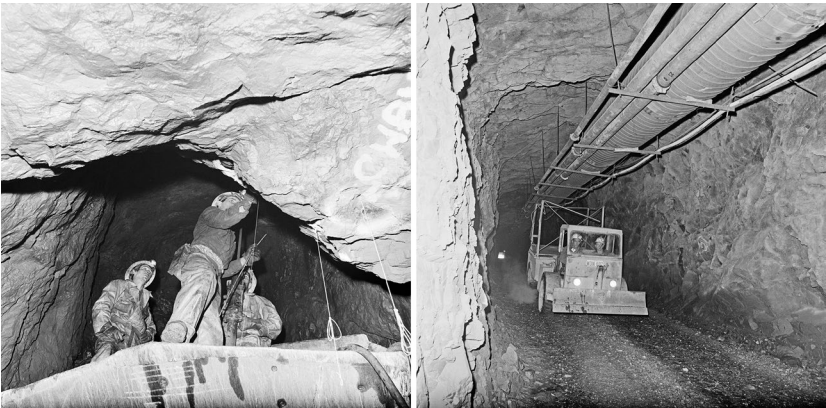


Figure 47. Cross-section of Renison mining operation.

Source: Renison Goldfields Consolidated Limited, *Annual Report 1987*.



Figures 48 and 49. Underground mining operations, Renison.

Sources: NAA, 1200, L59830, L59828.

The ITC imposed export restrictions from April 1982. With recessionary conditions affecting the world economy, global tin consumption was at 85 per cent of global production.¹⁶ While initially a 15 per cent restriction, it was subsequently increased to nearly 40 per cent. Australia's position as an ITC member was unique, because as well as being a major exporter of tin it was also a consumer. Through much of the time that ITC restrictions were in place for Australian producers, including Renison, domestic demand remained weak.

Coming after the completion of a program to expand production and increase concentrator capacity in 1981, production now had to be reduced with restrictions on concentrator utilisation levels, as well as the manner in which the mining operation was conducted for much of the period between 1982 and 1986. The lower level of production had an adverse impact on Renison's unit cash costs of production. This led to management actions to address the cost structure of the operation that, in turn, adversely affected the industrial relations environment. The budgetary settings for the 1983 financial year assumed that 15 per cent of mill operating performance could be affected adversely, while navigating a move to a 38-hour week presented the possibility of additional industrial unrest.¹⁷

During this period, a policy was adopted of not retrenching employees, as a result of Roberts making this commitment while addressing the workforce.¹⁸ Instead, the approach adopted included the introduction of a five-day week and extended periods of operational closure, particularly over Christmas periods, as well as a pay freeze. The approach preserved employment levels but reduced the take-home wages of the workers, which, in turn, created demands for increased wages. Other measures to improve the efficiency of the Renison operation and reduce costs in the context of lower production were necessary. These focused initially on voluntary redundancies, but later involved far-ranging structural changes in the level of the workforce and work practices. Industrial disruption worsened with frequent workplace bans imposed. In August 1983 mill workers refused to undertake mill repairs or maintenance on weekends,

16 For a discussion of the International Tin Agreement and the 1985 collapse of the buffer system, see Mallory, 'Conduct Unbecoming: The Collapse of the International Tin Agreement'.

17 Renison Limited, 'Minutes of an Operating Committee Meeting', 31 May 1982, RGCA, Box 12254.

18 John Mitchell, personal communication, 7 November 2018.

while the workforce was operating on a five-day working week. By April 1984, while operating on restricted production settings, Renison's general manager believed that:

[The] work-force's commitment to the Company had not equated with the Company's efforts to preserve their employment through the no retrenchment policy. Consequently, he considered that the work-force should be informed that the Company was not prepared to continue with a no retrenchment policy.¹⁹

The industrial relations climate at site was not assisted by frequent emissions of carbon disulphide and the risk to the health of workers. Suspicion existed on both sides. The compensation of one worker affected by emissions led management to observe that the condition of another employee 'deteriorate[d] shortly after ... a worker's compensation payout ... for a similar incidence'.²⁰ Management was also concerned at what it saw as the union's 'strike now talk later approach' with established grievance mechanisms rarely employed. As a result, inordinate management time was used in dealing with numerous minor grievances, which nonetheless led to stoppages. In 1985, the operation was severely affected by industrial disruption to an extent that it confirmed to the company's board and management the dire circumstance of its 'inability to control the Renison workers'.²¹

Through to 1985, Renison's production settings continued to be restricted by tin export controls, equating to up to 60 per cent of the operation's capacity in some periods. Roberts pointed out at an RGC annual general meeting that countries not bound by the ITC agreement were involved in smuggling tin into the market. In the case of the United States, it was also drawing down from its strategic stockpile. Roberts, exasperated by events, indicated to shareholders that he had 'suggested to the Australian Government, it should either insist on this smuggling being stopped or allow Australian producers to smuggle the same tonnage'.²² Shortly thereafter, in October 1985, the insolvency of the ITC meant that the buffer stock manager system collapsed with the closure of the two principal tin exchanges, the London Metals Exchange and Kuala

19 Renison Limited, 'Minutes of an Operating Committee Meeting', 2 April 1984, RGCA, Box 12254.

20 Renison Limited, 'Minutes of an Operating Committee Meeting', 29 July 1985, RGCA, Box 12254.

21 Renison Goldfields Consolidated Limited, 'Minutes of Meeting of Directors', 29 August 1985, p. 5, RGCA, Box 11328, BRD38/02.

22 Renison Goldfields Consolidated Limited, 'Chairman's Address to the Fifth Annual General Meeting', 25 October 1985, p. 8, RGCA, Box 14284, BRD38/07.

Lumpur Tin Market, and attendant turmoil and volatility in the global tin market. Large quantities of tin were introduced into the market, leading to a marked reduction in the tin price. Relative to the period between 1981 and 1986, the tin price received by Renison declined in Australian dollar terms by 32 per cent or over 50 per cent in real terms in the subsequent four-year period to 1990.

In the context of the crisis in world tin markets and decline in the tin price, Renison's operations in 1986 returned to a 24 hour, seven-day setting in an attempt to improve the unit cost of production. During the latter part of 1986, Renison did not sell tin concentrate into what remained a weak market. Budgetary planning for the 1987 financial year assumed a tin price of only \$8,500 in the first half and the potential for an increase to \$9,500 in the second half, lower than the cost of production. Placing the operation on a care and maintenance basis remained an option.²³

In 1986, after production constraints were lifted, Renison moved from its previous practice of selling tin concentrate to smelters to an arrangement where it had the tin concentrate toll-treated, enabling the company to sell tin metal directly. This arrangement was handled by Tennant Trading from 1987. However, sales for the 1986 financial year were 31 per cent lower than the previous year; the average price received declined by 12 per cent and the contribution to group profit by Renison declined by 71 per cent to a historical low. While sales and profitability recovered in 1987, Renison's period as the prime contributor to RGC profitability had ended. Industrial disruption remained an ongoing issue. In 1987, the underground section of the Australian Workers' Union directed all of its members to take leave over Christmas, an action that was rejected by management. This action followed a range of industrial disputes including claims against management that it had been responsible for instigating police searches of some employees' homes.

In March 1988, the general manager of the Tin Division of RGC, John Mitchell, was transferred after a gruelling period in the role. Dick Winby was in the role for a short period before another manager, Mike Ayre, who had been general manager at Mount Lyell, was appointed general manager. Ayre's appointment was designed to make wholesale changes to an operation that was suffering challenges on a number of fronts.²⁴ With a cost of

23 Renison Limited, 'Minutes of an Operating Committee Meeting', 28 April 1986, RGCA, Box 12254.

24 Mike Ayre, personal communication, 30 October 2018.

production higher than the prevailing tin price, the outlook for profitability remained bleak. Industrial disputation and the power of the unions in disrupting management initiatives was endemic, while operationally there were challenges in mining and processing the complex ore body. Seven separate unions operated on site and were emboldened by previous management acquiescence to demands in more favourable periods of financial performance. The lost time injury rate was high with multiple trivial incidences of work-related time off work being taken. The mining activities suffered high dilution rates while mill recoveries were poor.

Despite the efforts of prior management, the company had not been able to arrest the decline in the parlous financial state of the operation. Ayre commenced a major process of organisational and operational restructure, which entailed changes at the management level of the operation, dismissing most of his departmental heads. His attitude, as recalled by one former colleague, was to convey to the management group that they were there 'to help the people in blue overalls do their job'; a sentiment not necessarily universally shared by the management team.²⁵ Workforce numbers were also required to be reduced. An initial phase, in March 1989, involved seeking voluntary retrenchments; 97 employees elected to take this option. This resulted in a substantial reduction in the workforce such that at June 1990 there were 345 employees compared to 524 in 1981.²⁶

The resource life of the operation ranked as one of the greatest challenges. Despite a view prevalent at board and executive level that Renison had almost unlimited resources from which to draw, the reality was that with prevailing tin prices even the reserves level was under question if not able to be produced economically. It was essential for Renison to develop a new mine plan, combined with the implementation of operational efficiencies, to enable reserves to be mined economically. Coincidentally, in 1989 a more rigorous code for the determination and reporting of reserves was introduced in the Australian Stock Exchange listing rules and, under this framework, a comprehensive review of the reserves and resources of Renison was conducted.²⁷

25 Colin Cannard, personal communication, 25 September 2018.

26 Renison Goldfields Consolidated Limited, *Annual Report & Notice of Meeting 1983*, p. 18; Renison Goldfields Consolidated Limited, *Annual Report 1993*, p. 23.

27 The code was the Joint Ore Reserves or JORC Code: Joint Ore Reserves Committee of the Australasian Institute of Mining and Metallurgy, Australian Institute of Geoscientists and Minerals Council of Australia (JORC), *Australasian Code of Mineral Resources and Ore Reserves (The JORC Code)*, 1999.

The reserve and resource estimation process was complex, given the multitude of ore bodies and need for decisions about realistic, economic cut-off grades. In 1989, prior to the exercise, proved and probable reserves were estimated at 5.5 million tonnes, with a view that there were a further 20 million to 25 million tonnes likely to be available for mining. It was this latter category of less well-defined resources that provided what turned out to be a false confidence of an extended operational base for Renison. After the completion of the reserve and resource estimation process, proved and probable reserves reduced by over 40 per cent. The categorisation of available resources, likely to be developable under then current assumptions, was reduced by half while a large level of the much less likely to be developed resources, forming the backbone of previous estimates of mine life, was removed completely.²⁸ What had been viewed as a mine life of one to two decades became closer to six years. Ayre and Renison's senior geologist, Colin Cannard, flew to Sydney to explain the outcome to Anderson, the managing director, who was then facing portfolio challenges on a number of fronts.

During 1989 and 1990 greater attention to mine planning and ore body definition reduced the dilution rate, or amount of waste material sent with ore to the mill for processing. A reduction in the rejection rate of ore resulted in a heavy media plant being shut down. In 1989, this resulted in an 8 per cent improvement in mill head grades and achievement of record tin production, while in the following year mill recoveries increased further. The factor not assisting the operation was the continuing weak tin price, which decreased by over 20 per cent between 1989 and 1991. Employee numbers were reduced by a further 20 per cent in 1988 with a further reduction in 1989. Despite weak tin prices, a small profit was recorded in the 1990 financial year, although a loss of \$12.7 million was recorded in the following year. The future of Renison, at one stage the largest financial contributor to CGFA and RGC, and the world's largest underground tin mine, was in the balance.

In April 1988, RGC's tin assets were expanded by the acquisition of a 75 per cent interest in Koba Tin, then undertaking mining operations on Bangka Island, Indonesia. The alluvial mining operation was supplemented by the introduction of a dredge and Koba Tin made its first

28 Reserves and resources after 1989 are not strictly comparable with pre-1989 figures because of the different methodology. However, 1991 proven reserves were reported as 2.2 million tonnes, compared with 1989 proven reserves of 4.6 million tonnes. See Appendix 6.

contribution to RGC in the 1989 financial year. In that year, Koba tin sales were at a similar level to those of Renison, but its financial contribution was markedly higher.²⁹ Renison remained in the RGC portfolio until its sale in 1998; Koba Tin continued to operate up to the time of the merger with Westralian Sands, and under the ownership of Iluka Resources until divested in 2002.

Mount Lyell—measures for survival

RGC's copper interests—the Mount Lyell operation in Tasmania and the Gunpowder Copper project in Queensland—posed challenges to the group during the first half of the 1980s. Gunpowder, a conventional mining and milling operation, had ceased in 1977 and the mine placed on a care and maintenance basis. A small-scale leaching operation was conducted, producing quantities of final product that offset part of the idling costs. The Japanese customers were keen for the mine to reopen as a source of copper concentrate. CGFA had given initial consideration to reopening the mine on a non-conventional basis using in situ leaching of the three ore bodies, given its assessment was that a conventional mining project would generate a low rate of return and have a long financial payback period.³⁰ In 1981 a pre-feasibility study commenced on a leaching project and, a year later with sufficient confidence gained from that study, a definitive feasibility study commenced for an operation using solvent extraction and electro-winning. As this option had an estimated capital expenditure of \$26 million, and with the financial performance highly sensitive to the prevailing copper price, the decision was made to suspend leaching and cementation operations and place Gunpowder on care and maintenance.³¹ Other parties were approached to buy the operation, with no success. In 1983, RGC's interest in Gunpowder increased to 83.55 per cent through the acquisition of Mitsubishi Development's interest. By November 1984 the disposal of the assets of Gunpowder had occurred.

29 Koba Tin had tin sales of 6,435 and 7,000 tonnes in 1989 and 1990, compared with Renison tin sales of 6,933 and 7,001 tonnes, respectively. The combined two-year contribution to RGC's operating profit before tax was \$32.5 million for Koba Tin and \$9 million for Renison (Renison Goldfields Consolidated Limited, *Annual Report 1993*, p. 23; Renison Goldfields Consolidated Limited, *Annual Report 1997*, p. 65).

30 Consolidated Gold Fields Australia Limited, 'Minutes of Meeting of Directors', 26 March 1980, p. 2, RGCA, Box 12272.

31 Renison Goldfields Consolidated Limited, 'Minutes of Meeting of Directors', 29 July 1982, p. 7, RGCA, Box 11328, BRD38.

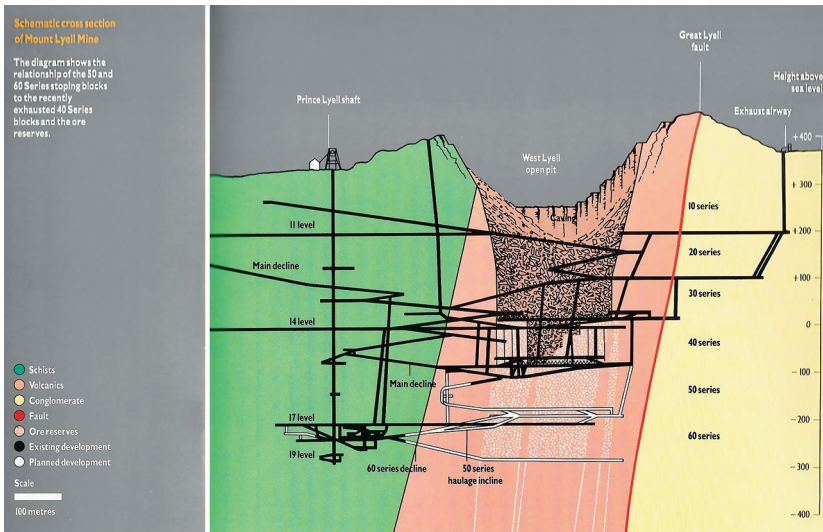


Figure 50. Mount Lyell cross-section showing mining through various series of ore bodies to the 50 series.

Source: Renison Goldfields Consolidated Limited, *Annual Report 1987*.

Since 1976, with cessation of work on the Prince Lyell shaft project, forward planning at the Mount Lyell operation had been on the basis of a three-year rolling life. The adaptation of decline haulage systems allowed ore extraction from the Prince Lyell 20 series, half of the 30 series and an ability to commit to mine the Prince Lyell 40 series. By 1984, the 20 series and a portion of the 30 series had been developed. Selective satellite mining occurred at the Cape Horn and North Lyell areas. This approach had avoided major capital expenditure required for deepening the Prince Lyell shaft while the purchase of modern equipment and technical innovation had reduced operating costs. However, the price of copper continued to decline in real terms, with substantial financial losses incurred. In 1977 an operating loss of \$10.7 million before tax was recorded, with a write-down of fixed assets of \$16.8 million. Meanwhile, a drilling program had produced encouraging results. The challenge for the future of the mine was whether a commitment to mine ore at deeper levels at Prince Lyell and Western Tharsis could be justified economically.

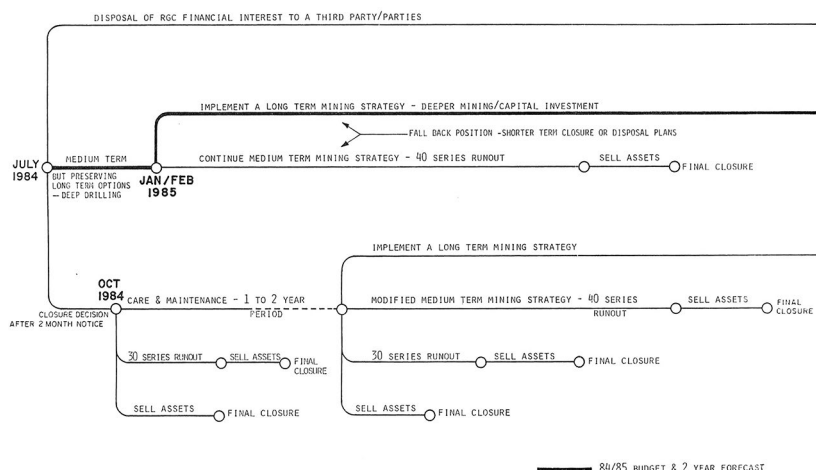


Figure 51. Alternative operating strategies for Mount Lyell under consideration as part of 1984/85 budgetary planning.

Source: Internal RGC document (copy held by the author).

Mount Lyell recorded losses from 1982 to 1985. The company retained a pessimistic view of the copper price outlook, associated with a change in long-term demand for copper due to substitution by other products, increasingly efficient usages of the product and global production capacity in excess of existing demand. Moreover, the scope for further, material cost reductions at Mount Lyell was viewed as limited.³² In 1982, the board of RGC considered options in relation to the future, including disposal of Mount Lyell, placing the mine on care and maintenance for one to two years, or implementing a long-term mining strategy that would entail the development of the 50 and 60 series. Radical changes in operating arrangements were considered, including the introduction of a four-day paid week along with extended periods of mine closure. With losses running at \$1 million per month, closure was viewed as the likely outcome at completion of mining operations from the 30 series, estimated to be in 1985. The board urged management to identify options to attract alternative industries to Queenstown to make use of infrastructure, as a means of offsetting the devastating effects closure would have on the local community. Consideration was given to acquiring an overseas company, with a view to relocating part of its operations to Tasmania.

32 Renison Goldfields Consolidated, 'Minutes of Meeting of Directors', 26 August 1981, p. 8, RGCA, Box 11328, BRD38.

During the three financial years 1982 to 1984, Mount Lyell's accumulated losses before tax amounted to \$15 million, reversing the profits of the previous three years. In 1984, in view of the financial position and the depressed copper price outlook, contingency planning for closure was updated.

In the same year, a proposal was prepared by an external adviser for the reorganisation of Mount Lyell, as part of a process for exploring divestment options. One option was for the establishment of a listed copper trust in which Mount Lyell would be held, with the Tasmanian Government viewed as a potential unit holder. This approach, if implemented, would avoid the need for RGC to make a direct capital investment to develop the deeper ore horizons, as well as potentially avoid future rehabilitation issues, a factor increasingly to the fore in management and director considerations. It was recognised that the trust proposal would be difficult to implement; a necessary precondition for its establishment included a substantially higher copper price, at a time when long-term demand for copper was viewed as in decline. Furthermore, mine infrastructure was old and incurring increased costs to maintain and the operation was noted for entrenched labour problems.³³ The decision recommended, as a result of a strategic review, was that the mine be closed. It was determined that the financially and socially responsible manner to implement this decision was to adopt a medium-term plan and cease mining at the completion of the 40 series ore body, estimated to be in 1989.³⁴

Direct forms of government financial support were considered essential for the mine to continue to operate under this plan. A period of intense engagement with the Tasmanian and Commonwealth governments followed. In 1982 approaches were made to the Tasmanian Government for financial assistance in the form of relief from payroll tax. In addition, approaches were made to Mitsubishi, the buyer of Mount Lyell's copper concentrate, for a reduction in smelting charges.³⁵ While government assistance and other relief measures were sought, mine closure planning continued. However, planning also considered arrangements for Mount

33 'Report Prepared for Renison Goldfields Consolidated Limited on the Mt Lyell Reorganisation', August 1984, RGCA, Box 1091.

34 AG Robertson/RM Patterson to Executive Committee, 'Review of Strategic Options for Mount Lyell Copper Division', 11 September, 1984, National Archives of Australia, Tasmania (NAAT), NS3357/1/187.

35 Renison Goldfields Consolidated Limited, 'Minutes of Meeting of Directors', 29 July 1982, p. 4, RGCA, Box 11328, BRD38.

Lyell to continue with a reconfiguration and reduction in the workforce and the commencement of drilling of the 40 series to allow mining and ore retrieval through an access ramp from the main decline to the surface. Planning was also begun for the Prince Lyell crushing and hoisting project, as the basis for potentially accessing the deeper 50 and 60 series ore bodies.

In March 1984, Roberts and the London chairman and chief executive officer, Rudolph Agnew, met the Tasmanian premier to advise him of the financial state of the operation. They provided details of the historical operation of Mount Lyell since 1970, including the level of profits earned, number of employees and contribution to the Tasmanian economy. In effect, the Tasmanian premier was 'put on notice regarding the extent of RGC's concern about the continuing unprofitability of the Mount Lyell operation'.³⁶ Approaches were also made to Commonwealth Government ministers outlining the parlous financial state of the operation. Senator Peter Walsh, the Commonwealth minister for resources and energy, visited Queenstown and addressed the workforce. He indicated to assembled workers that there would be no Commonwealth Government assistance for Mount Lyell. He had to be escorted out of the back door of the football club to avoid the ire of the assembled workers.³⁷

At a subsequent meeting with the Tasmanian premier in August 1984, which was preceded by a series of strikes at the operation, Roberts advised that the losses being incurred 'were becoming unbearable'.³⁸ The premier was advised that the only option, if the mine was to remain open beyond the current 30 series, would be if the company achieved a 'guarantee that it would not have to bear any losses past that time'.³⁹ With financial support from the Tasmanian Government it was envisaged that production could be extended to the exhaustion of the 40 series and potentially provide the opportunity to proceed with the development of deeper zones. The company recognised that the continuation of production, along with a potential recovery in the copper price, were the only factors that may improve the prospects for the sale of the operation.

36 Renison Goldfields Consolidated Limited, 'Minutes of Meeting of Directors', 29 March 1984, p. 2, RGCA, Box 11328, BRD38/02.

37 Mike Ayre, personal communication, 21 October 2018.

38 Renison Goldfields Consolidated Limited, 'Minutes of Meeting of Directors', 29 July 1982, p. 4, RGCA, Box 11328, BRD38.

39 Renison Goldfields Consolidated Limited, 'Minutes of Meeting of Directors', 30 August 1984, p. 3 and 25 September 1984, pp. 5–6, RGCA, Box 11328, BRD38/02.

At a further meeting with the premier on 17 October 1984, Roberts discussed the copper trust concept through the formation of a new company. It was proposed that this trust be one-third owned by RGC and two-thirds by the Tasmanian Government. The trust would acquire the mining lease and sell all of the equipment to a commercial leasing company, with RGC providing management services at cost.⁴⁰ This proposal gained little support from the Tasmanian Government. Later in the month, Roberts followed up in writing, warning of the 'desperate situation' confronting Mount Lyell:

Despite its remarkable improvement in productivity in recent years, the mine lost \$4.8 million in the year to 30th June last and that, at current prices, the losses are accumulating at a rate of \$1 million per month ... We are thus looking at possible losses in this financial year of \$12 million having suffered losses in the three preceding years totalling \$14.9 million ... further significant cost reductions are not achievable and it is impossible for the RGC Group to continue to absorb losses of the magnitude currently being suffered.⁴¹

Roberts advised the premier that, despite a formal decision not having been made by the RGC board, he believed there was no option other than to close the mine at the end of either 1985 or 1988. In a form of brinkmanship, he explained:

At this stage I would like to make one thing quite clear—my Company is not seeking Government assistance at all and is strongly of the opinion that it is in the best interests of all concerned to close the mine at the end of the 30 Series—that is the Short Term Plan ... in 1985.⁴²

The company's view was that some of the Mount Lyell workforce could be absorbed by the Hydro Electric Commission that was establishing a presence in Queenstown to undertake extensive tunnelling works. Mount Lyell could make available its stock of 250 houses and 50 flats, along with workshops and other facilities. For Roberts, it was a fortuitous opportunity that Mount Lyell's closure plans and those of the Hydro

40 Letter from MJ Roberts, Executive Chairman RGC, to Premier of Tasmania, 17 October 1984, RGCA, Box 1091.

41 Letter from MJ Roberts, Executive Chairman RGC, to Premier of Tasmania, 30 October 1984, p. 1, RGCA, Box 1091.

42 *ibid.*, p. 2.

Electric Commission might coincide. RGC had come close to deciding to close the Mount Lyell operation. However, Roberts added in his letter to the Tasmanian premier:

Notwithstanding ... the above ... should the Tasmanian and/or the Federal Governments believe that the benefits arising from extending operations to 1989 in terms of direct and indirect employment, tax revenues export earnings and State and regional finances, justify the cost of support, then we would be prepared to co-operate with Government/s in the development and implementation of a plan to achieve this.⁴³

It was made clear that it was 'absolutely fundamental to the Company's willingness to co-operate' that it be at no cost to the company, 'whether from a cash or profit point of view'.⁴⁴ Discussions proceeded on the basis of the Tasmanian Government making available financial assistance to support continued operation. Meanwhile, concessions were negotiated with the Emu Bay Railway, which agreed to a reduction in its haulage charges, while Mitsubishi agreed to a reduction in refining charges.

In 1984 and 1985 further reductions in the workforce were achieved through early retirements, while increased rental charges were applied for employee housing and a decision was made to cease intake into the company's apprenticeship scheme. By February 1985 the retrenchment of 107 employees was completed following voluntary redundancies and the early retirement of over 50 workers. During the years 1983 to 1986, the Mount Lyell workforce had been reduced from over 700 to 525 employees.

The major structural changes in the workforce, achieved by management with cooperation of the workforce, meant that for the 1984 financial year production was the highest since the start of the Prince Lyell Extended Plan and productivity of copper per employee the highest ever achieved.⁴⁵ Despite the reduced number of workers, there was an improvement in operational performance, in terms of ore treated and the grade recovered, with a commencement of the development of the next ore deposit, the 40 series ores. Evaluation of the 50 series and 60 series ore bodies also provided encouragement that both contained substantial reserves at

43 *ibid.*, p. 5.

44 *ibid.*, p. 6.

45 Mount Lyell Copper Division, 'Minutes of Operating Committee Meeting', 25 July 1984, p. 2, NAAT, NS3924, Items, 347–359.

favourable grades.⁴⁶ Completion of the extension of the main decline of the Prince Lyell shaft to the 50 series ore body, along with completion of the underground crusher, were expected to allow greater efficiencies by enabling ore haulage over shorter distances, while higher copper grades and an increased gold content at depth were also expected to improve the operation's financial performance.⁴⁷ However, with the copper price necessary for a break-even financial outcome being well above the level RGC was budgeting, Mount Lyell was again at the crossroads.⁴⁸

Ayre, the general manager of Mount Lyell, had adopted an approach of 'opening the books', advising the workforce of the financial circumstances of the operation. While there were sporadic industrial disputes, usually influenced by broader union claims, workers and the unions 'put their shoulder to the wheel' and were generally supportive of management's efforts.⁴⁹ A 'self-help' package was agreed with the workforce, which included continuation of a 40-hour week, agreement to cooperate with the company to achieve efficient workplace practices and the centralisation of some functions, a 'no-strike' agreement and the retrenchment in early 1985 of 87 employees in addition to the 37 employees already planned to be retrenched. The Queenstown Council was asked to reduce its rates by 50 per cent. It agreed to a 25 per cent reduction, which saved the company \$30,000 for the 1986 financial year, while an increase in house rentals and reduction in heating subsidies for employees, along with other measures, were expected to reduce operating costs by over \$9 million.⁵⁰

By December 1984, after a further meeting with the Tasmanian premier, Roberts was able to set out a formal package for agreement, which included the sale of the company's interest in the Lake Margaret Power station to the Hydro Electric Commission for \$5 million, an immediate cash payment by the Tasmanian Government of \$5 million and government acceptance that Mount Lyell would not be responsible for any rehabilitation other

46 Estimated at 5.1 million tonnes for the 50 and 60 series, at a tin grade of 1.77 per cent and 1.95 per cent, respectively (Mount Lyell Copper Division, 'Minutes of Operating Committee Meeting', 24 October 1984, NAAT, NS3924, Items, 347–359).

47 Renison Goldfields Consolidated Limited, 'Minutes of Meeting of Directors', 29 July 1982, p. 4, RGCA, Box 11328, BRD38.

48 In 1984 the break-even cash costs for Mount Lyell were estimated to be \$2,200 and \$2,580 per tonne for the 1984/85 and 1985/86 financial years, respectively, with a budgeted copper price for 1984/85 of \$1,550 per tonne (RGC Memorandum, 2 August 1984, p. 2, RGCA, Box 1091).

49 Mike Ayre, personal communication, 21 October 2018.

50 Mount Lyell Copper Division, 'Minutes of Operating Committee Meeting', 27 November 1985, p. 1, NAAT, NS3924, Items 360–373.

than the removal of plant and surface equipment.⁵¹ Overtures were made by the Tasmanian Government for matching Commonwealth Government assistance. While Prime Minister Bob Hawke did not accede to providing direct financial support, additional Commonwealth funds were provided to the Tasmanian Government with it able to allocate these funds as it saw fit.⁵² Mount Lyell, in effect, had been living on a knife edge in terms of its continuation. One former RGC executive recalled that, when travelling in Queenstown on holiday with his wife, they reached the shopping centre and word had got around that there was a director in town who had come to Queenstown to shut the mine.⁵³

With the devaluation of the Australian dollar, Mount Lyell's cash break-even copper price declined to \$1,810 in March 1985, relative to a prevailing copper price of \$1,900.⁵⁴ The financial assistance and market conditions strengthened the board's confidence of the prospects for Mount Lyell. In April 1985, when the copper price had increased to \$2,300, forward selling of product was considered, leading directors to contemplate an outcome that had previously seemed inconceivable: 'the possibility of Mount Lyell reporting a profit, as against the large losses being projected when assistance from the Tasmanian Government was accepted'.⁵⁵

While continuing to be loss-making in 1985, Mount Lyell returned to moderate profitability in 1986. During 1987, the stabilisation and improvement of the financial performance enabled planning to commence on studies for mining to the 50 series and 60 series, with an intention to produce at a reduced annual throughput but with recovery of higher-grade ore.⁵⁶ These studies noted achievements in improving productivity, as well as a markedly improved geological understanding of the Prince Lyell ore body at depth. In turn, these provided encouragement for the future of the Mount Lyell operation with an internal assessment that, with future planned mining grades, 'Mount Lyell ... cannot be considered a low grade

51 Letter from Max Roberts, Executive Chairman, to Premier of Tasmania, 21 December 1984, p. 1, RGCA Box 1091.

52 Letter from RJL Hawke to Premier of Tasmania, 30 January 1985, RGC, Box 1091.

53 Tony Hemingway, personal communication, 4 December 2018.

54 Renison Goldfields Consolidated Limited, 'Minutes of Meeting of Directors', 28 March 1985, p. 4, RGCA, Box 11328, BRD38/02.

55 Renison Goldfields Consolidated Limited, 'Minutes of Meeting of Directors', 24 April 1985, p. 3, RGCA, Box 11328, BRD38/02.

56 Renison Goldfields Consolidated, 'Minutes of Meeting of Directors', 27 November 1987, p. 5 and 29 January 1987, pp. 5–6, RGCA, Box 11329, BRD38/03.

copper mine'.⁵⁷ Extension of the operation would require an estimated \$23 million of capital expenditure. The Mount Lyell management, with the endorsement of the RGC board, proceeded to operate the mine to the end of the 40 series, estimated to be at the end of 1989, with confidence to be able to proceed to the development of the 50 and 60 series.⁵⁸

Mount Lyell's future had once again been at a crossroad. Anderson advised his colleagues of the main features of the arrangements for Mount Lyell progressing with 50 and 60 series mining, thereby extending the mining operations by five years to 1994. The approach entailed improved productivity by lifting the cut-off grade and, in so doing, overcoming 'a major stumbling block of previous long term plans, namely high capital expenditures in early years resulting in large cash exposures'.⁵⁹ Anderson advised that 'a possible extension of the life of the Mt. Lyell mine could have attractive upside'. He also warned: 'It certainly has considerable downside'.⁶⁰

The agreement with the Tasmanian Government was formalised in March 1987, referred to as the Prince Lyell 1995 extension. A commitment to maintain employment within stipulated ranges was agreed, although the company would be discharged from these obligations if the copper price fell below defined levels over any continuous six-month period.⁶¹ The company's announcement of the agreement pointed to the benefits of the devaluation of the Australian dollar for mine profitability, while completion of the work on shaft hoisting and the underground crusher facilitated the mining of the new horizons.⁶²

During 1988, delineation drilling of the deeper ore bodies began. A haulage shaft was established from the existing Prince Lyell shaft and an underground crusher installed. Production commenced from the 50 series in 1989. However, a review of mine plans indicated a lower cut-off

57 The Mount Lyell Mining and Railway Company Limited, 'The Mount Lyell Extended Plan 1987', p. 2, NAAT, NS3357/1/129.

58 Renison Goldfields Consolidated Limited, 'Minutes of Meeting of Directors', 28 February 1985 and 28 April 1985, RGCA, Box 11328, BRD38/02; Renison Goldfields Consolidated Limited, *Annual Report 1985*, p. 14.

59 Campbell Anderson to Non-Executive Directors, 5 November 1986, p. 2, RGCA, Box 1361.

60 *ibid.*, emphasis in original.

61 Letter from C McC Anderson to Hon Robin T Gray, Premier of Tasmania, 14 March 1987; letter from Premier of Tasmania to Mr C McC Anderson, 16 March 1987, RGCA, Box 1091.

62 'RGC Announcement to the Australian Associated Stock Exchanges and the Press, Extension of Operations at Mt Lyell Copper Mine', 16 March 1987, RGCA, 91/207, Box 1091.

copper grade that, when associated with low ore availability, necessitated attempting to improve the competitive position of Mount Lyell yet again, particularly in the context of the commencement of new, competing international sources of copper production.⁶³ Closure of Mount Lyell was once more under management and board consideration.

Mineral sands—east to west coast

Mineral sands constituted the largest component of the RGC portfolio. At the time of RGC's formation, Associated Minerals Consolidated (AMC) had 17 mining and processing facilities. These encompassed operations on the east coast of New South Wales; on North Stradbroke Island, Queensland; at Capel and Eneabba, Western Australia; and in the United States at Green Cove Springs in Florida, as well as a zirconia plant in New Hampshire. The company operated two synthetic rutile kilns. Mineral sands leases were held on Moreton Island and exploration activities were conducted on Tiwi Islands, Northern Territory, and on the east coast of the United States.

Mineral sands was initially a drag on the group's performance but rebounded to make a major contribution in the second half of the decade. Operating challenges featured prominently, reflected in declining ore grades, particularly at Eneabba and Capel, and production inefficiencies associated with the commencement of the Florida operation. Increasing costs were a feature of the division. The Eneabba expansion project, designed to address the challenge of lower grades by achieving higher rutile and synthetic rutile production, struggled to achieve targeted output. Production was below projected estimates with a corresponding increase in unit costs. Similarly, the Florida operation was initially producing at approximately half of projected estimates.

There were other issues related to RGC's mineral sands division. Directors had been appraised before RGC's formation in 1981 that, in relation to investment market feedback, there was 'a good deal of unhappiness with regard to A.M.C.', with the 'company having had two rights issues

63 Renison Goldfields Consolidated Limited, *Annual Report 1990*, p. 18.

in recent times and then passing its interim dividend'.⁶⁴ In 1983, WP Murphy, the executive director of marketing, also advised directors of the decline of AMC's standing in the mineral sands market:

Mr Murphy commented that AMC, had not, in its recent history, been well-regarded as a supplier in the mineral sands market, and thus, an immediate priority is to regain AMC's previous high standing, thereby increasing its share of the market ... [T]he Chairman explained that the fault, which led to the deterioration of AMC's standing, appeared to be with the Management structure existing in AMC over the previous four years.⁶⁵

The company also faced reputational issues related to historical practices in the disposal of mineral sands processing by-products, including monazite. Health concerns related to the disposal of tailings in New South Wales were raised in the state parliament and led to an agreement under which AMC bore some of the cost of cleaning up areas of contamination at Bryon Bay.

The financial challenges facing AMC were evident before RGC's formation in 1981 with concerns about the high level of stock being held by it and other producers, the cancellation of orders for part of the company's synthetic rutile production and the Florida operation encountering operational issues associated with the dredging of indurated material.⁶⁶ The outlook for the 1983 financial year was bleak, with \$50 million of assets employed and a loss forecast. The board of RGC asked management of AMC to present alternatives for 'returning AMC's operations to profitability'.⁶⁷ Roberts advised AMC's management that they would have to operate on internally generated funds in the future. He emphasised to the division that it 'could not continue to be a cash drain on the Group'.⁶⁸ Faced with poor financial results, weak markets and 'strongly escalating costs', a reorganisation of the business began in the second half of 1981

64 Consolidated Gold Fields Australia Limited, 'Minutes of Meeting of Directors', 22 April 1981, RGCA, Box 12260, RGC 11518.

65 Renison Goldfields Consolidated Limited, 'Minutes of Meeting of Directors', 26 May 1983, p. 8, RGCA, Box 11328, BRD38.

66 Renison Goldfields Consolidated Limited, 'Minutes of Meeting of Directors', 28 August 1982, p. 9, RGCA, Box 11328, BRD38/02.

67 Renison Goldfields Consolidated Limited, 'Minutes of Meeting of Directors', 26 August 1982, p. 6, RGCA, Box 11328, BRD38/02.

68 Renison Goldfields Consolidated Limited, 'Minutes of Meeting of Directors', 28 April 1983, p. 7, RGCA, Box 11328, BRD38.

and continued through to 1983.⁶⁹ The reorganisation occurred in the context of a worldwide recession and business conditions that deterred customers from confirming orders. In the case of Eneabba, the situation was compounded in 1982 by Kerr-McGee, a pigment customer, not accepting Eneabba ilmenite due to its high radiation levels and DuPont delaying acceptance of synthetic rutile.⁷⁰ The largest synthetic rutile kiln, plant B, was idled in December 1982.

The head office was relocated from the former AMC site at Southport in Queensland to Perth, with a reduction of personnel. Marketing offices in Southport, Sydney, Tokyo and London were closed. Further rationalisation of the Australian east-coast operations took place and the company's zirconia facility in New Hampshire was sold in 1984. In the same year, the company warned that the Commonwealth Government's denial of export permits on Moreton Bay would lead to the closure of the group's east-coast operations at the end of 1985. This subsequently occurred.⁷¹ In 1985, the company advised that it had ceased all mining operations in New South Wales, with poor market conditions compounding the effect of restrictive government actions on the industry. This brought to a close a 52-year involvement by the company on the east coast of Australia.

The program for improvement in operational performance, which included continued investment at Eneabba, Capel and Florida, began to show results. At Eneabba, capital expenditure to expand production, which began in 1981, contributed to a reduction in unit costs of over 20 per cent by 1983. By 1984, production had increased by 25 per cent through various initiatives, including relocation of the mining plant to enable mining of a higher-grade part of the ore body.⁷² At Capel, ilmenite production was reduced and new mining and processing methods were introduced, including a bucket-wheel excavator that was relocated from the Jerusalem Creek operation in New South Wales, reducing mining costs by 40 per cent, leading to improved profitability. Synthetic rutile production was also constrained.

69 Renison Goldfields Consolidated Limited, *Annual Report 1982*, p. 13.

70 Renison Goldfields Consolidated Limited, 'Minutes of Meeting of Directors', 25 February 1982, p. 2, RGCA, Box 11328, BRD38.

71 Renison Goldfields Consolidated Limited, *Annual Report and Notice of Meeting 1983*, p. 4; Renison Goldfields Consolidated Limited, *Annual Report 1984*.

72 Renison Goldfields Consolidated Limited, *Annual Report 1984*.

In the 1983 financial year, despite a 29 per cent decline in sales tonnages and a 'significant deterioration in rutile and synthetic rutile prices', the completion of capital expenditure programs had led to 'substantial cost reductions' and the 'curtailment of production [had] brought a significant turnaround in results'.⁷³ After suffering a loss of \$5.5 million in 1982, this figure was reduced to a loss of \$287,000 in 1983 and in 1984 the company recorded a profit of \$5.3 million. The adjustment to the business had been substantial. In the 1984 financial year, AMC's production levels commenced at 60 per cent of capacity, allowing a reduction of product inventory. This and the closure of other industry capacity and an improvement in demand meant that RGC's mineral sands production lifted progressively to 'approximately 90% of capacity at year end'.⁷⁴ During the year, synthetic rutile kilns A and B were reactivated. Plans were also put in place for an additional kiln to be located at Narngulu, near Geraldton. Expansionary activities at Eneabba and Green Cove Springs resulted in combined rutile, zircon and synthetic rutile production increasing from 324,000 tonnes in aggregate to 590,000 tonnes over the five-year period from 1985 to 1990. Sales volumes of these products increased by a similar level.

Radioactivity related to elevated levels of uranium and thorium in some of the ilmenite produced at Eneabba posed a potential challenge to product acceptance by customers. The solution was further technical advances that led to a new synthetic rutile product—synthetic rutile enhanced process (SREP)—which typically had a higher titanium dioxide content and uranium and thorium levels within customer specifications. SREP was more expensive to produce and its economic attractiveness as a product proved not to be compelling.

The context for the further development of synthetic rutile included favourable long-term demand forecasts for high-grade titanium dioxide feedstocks, associated with the expected continued adoption of the chloride pigment process in preference to the sulphate pigment process for the production of titanium pigment. In addition, the reduced availability of rutile, given the decline in east-coast operations, was also a factor. The advent of a mineral sands operation in Sierra Leone represented a new source of rutile; however, there were concerns by pigment producers of

73 Renison Goldfields Consolidated Limited, *Annual Report and Notice of Meeting 1983*.

74 *ibid*.

country risk and reliability of supply from this source. These concerns were to be borne out by the violent events associated with rebel incursion into the country in the early 1990s.

In a note to directors, Anderson conveyed the commercial imperative to proceed with a third synthetic rutile kiln:

If AMC does not offer such supplies it is our judgment that SCM and NL [National Lead] will be obliged to step up their own exploration activities to secure rutile and/or ilmenite resources. If they are successful in locating suitable ilmenite resources ... they could be in a position of going into SR manufactures themselves. Given that Westralian Sands SR plant is commissioned satisfactorily and operates to design specification, AMC's hitherto technological monopoly will no longer exist. There is no effective patent protection ... The commitment to and timing of Plant C is therefore seen by AMC as a defensive, as well as profitable, investment.⁷⁵

RGC's synthetic rutile developments progressed with the construction of the additional plant—plant C—at Narngulu in 1986. SCM, a major pigment producer, effectively underwrote the development of plant C with an 80,000 tonnes per annum commitment to the synthetic rutile product. Ilmenite feedstock was supplied from Eneabba. In combination with the plants at Capel, RGC's synthetic rutile capacity was planned to increase to 172,500 tonnes per annum. Plant C was commissioned in June 1987, although it did not reach nameplate capacity. The plant was designed to produce a 92.5 per cent titanium dioxide product, referred to as premium synthetic rutile. Contracts for the product provided for price bonuses or penalties for titanium dioxide content either above or below the 92.5 per cent level. The failure to meet this standard, as well as defined chemical specifications, created a situation in which price penalties were incurred. These adversely affected the financial returns generated from RGC's synthetic rutile business. The lower titanium dioxide content and pigment plant operational implications in using a product with finer characteristics unintentionally placed RGC's synthetic rutile product in direct competition with slag and, in particular, the higher-grade slag products that Rio Tinto's Canadian operation planned to produce.

⁷⁵ Campbell Anderson, 'Note to Directors Renison Goldfields Consolidated Limited, AMC—Plant C Project', 13 May 1985. SCM Chemicals was acquired by Hanson Plc in 1986.

In the view of the RGC marketing team, the inconsistency in achieving a premium-grade synthetic rutile and concerns with radiation levels led some customers to the use of slag. In fact, one pigment customer, SCM, advised RGC's marketing personnel in 1994 that 'RGC must have a viable SREP product and that ... operations in W.A. must lift their game'.⁷⁶

As in previous periods, the possibility of some form of industry rationalisation was considered. This included a combination of the south-west Western Australian operations of RGC and Westralian Sands. RGC also remained alert to the possibility of acquiring the other producer at Eneabba: Allied Eneabba. Discussions were undertaken with Westralian Sands and Allied Eneabba in regard to the rationalisation of the industry. According to the chairman's feedback to the board in February 1982, Westralian Sands seemed in favour of some form of rationalisation and 'may even be keen to buy us out'.⁷⁷ Other means for the rationalisation of the industry remained under consideration and, in April 1982, these included discussions with Western Mining Corporation, which was believed to be examining possible re-entry into the mineral sands sector.

As early as 1974, CGFA was in discussion with DuPont, the major shareholder in Allied Eneabba, in relation to a potential joint venture or joint marketing arrangement at Eneabba. In 1979, CGFA had approached Allied Eneabba and held the view that 'Dupont [sic] had not rejected the idea of rationalising the Eneabba field by means of [a] joint venture with A.M.C.'. ⁷⁸ AMC was of the view that the acquisition of Allied Eneabba's leases would improve the company's market share and make possible cost savings through the rationalisation of operations. Allied Eneabba was struggling with high debt and after returning to profitability in the first half of 1984, suffered an operating loss. A further loss was recorded in 1985. Operational problems were compounded by mining challenges in parts of the ore body with rubbly material, or 'coffee rock', that Allied Eneabba's mining equipment was not suited to handling.

76 RGC Mineral Sands Customer Call Report, 30–31 August 1994, RGCA, Box 9573, File C93 005.

77 Renison Goldfields Consolidated Limited, 'Minutes of Meeting of Directors', 25 February 1982, p. 3, RGCA, Box 11328, BRD38.

78 Consolidated Gold Fields Australia Limited, 'Minutes of Meeting of Directors', 22 June 1979, p. 3, RGCA, Box 12272.

In this context, in 1984, RGC gave further consideration to holding discussions with DuPont to 'ascertain their attitude to a possible acquisition'.⁷⁹ Instead, DuPont approached RGC to explore the possibility of it making a takeover bid for Allied Eneabba. DuPont had become increasingly concerned with Allied Eneabba's operational and financial performance and level of debt. According to an RGC document:

DuPont has doubts about Allied Eneabba's financial viability in the medium to longer term ... [and] saw RGC as having demonstrated financial strength and sand mining expertise to achieve these economies and to guarantee a stable source of supply to all of Allied Eneabba's customers.⁸⁰

RGC made a takeover bid for Allied Eneabba in October 1985. It followed an agreement with DuPont to purchase its 50 per cent interest at a lower price than offered to other shareholders via an amendment to the ilmenite supply contract in place between DuPont and Allied Eneabba. DuPont, at the time, was the only pigment producer able to use Allied Eneabba ilmenite. By February 1986 RGC had acquired control of Allied Eneabba. With the acquisition, RGC became the sole producer in what had become the main mineral sands-producing province in Australia.

As a result of a surge in demand for zircon in refractory usage in Japan and increased usage in tile and sanitary glaze applications, associated with a reduction in supply from the east coast of Australia, the zircon price increased from around \$90 per tonne in 1980 to over \$550 per tonne in 1990. Sales revenue, which had remained relatively flat over the first half of the 1980s, showed a fourfold increase from 1985 to 1990. Aided by generally robust market conditions, mineral sands remained the most important operating division of RGC. In every year from 1985 to 1990, mineral sands was by far the largest earnings contributor. The negative or low return on assets, which had been a feature of the period to 1984, was reversed in the subsequent years to 1990. In 1990, in what was the peak year of performance for both RGC and mineral sands, mineral sands contributed \$176 million pre-tax to a total RGC pre-tax operating profit of \$173 million. The only other asset in the RGC portfolio that came close to the contribution of mineral sands was the Porgera gold operation,

79 'Arwon Acquisition Proposal', 8 October 1984, RGCA, Box 11932, RGC 11472-02. Arwon was the RGC code word for the Allied Eneabba acquisition.

80 Renison Goldfields Consolidated Limited, 'Takeover of Allied Eneabba Limited' (draft RGC submission to FIRB), p. 8 (copy held by the author).

after it commenced production in 1990 (see Chart 13, Appendix 4). RGC's profit after tax increased from \$24 million in 1985 to \$116 million in 1990, with the return on shareholders' equity increasing from less than 10 per cent in 1985 to an average above 20 per cent during the next five years. However, in the five years following 1991, a marked reversal in the financial performance of RGC occurred, due in large part to a decline in the financial performance of the mineral sands division.

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