CONSOLIDATED RUTILE LIMITED

An Address by

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to The Securities Institute of Australia, New South Wales Division,
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Consolidated Rutile Limited is a public listed company, incorporated in 1963, and floated in 1965, the proceeds being used to acquire the mineral rights of Stradbroke Rutile and to construct mining and milling plant on North Stradbroke Island, east of Brisbane.

CRL had connections with the Foyster family, which then controlled Cudgen RZ Limited, whose major mineral sands operations were in New South Wales. Cudgen was allotted a 17.7 per cent interest in 1968, subsequently increasing its holding to 50.1 per cent in 1969, associated with the acquisition of the Foyster family interests by the Mineral Securities Group.

Because of this shareholding connection there was always a close link between Cudgen and CRL. For example, sales were made through a jointly owned Cudgen-CRL marketing company, Mineral Sales Pty. Limited, since 1967.

In 1970, under Mineral Securities' influence, CRL and Cudgen jointly formed Minsands Exploration Pty. Ltd. to explore reserves on certain farm-in areas on North Stradbroke Island and possibly other areas. In 1971, Union Corporation Australia, a wholly owned subsidiary of the large South African mining house Union Corporation, acquired the Cudgen shares from the liquidator of Mineral Securities.

The basic corporate structure has remained unchanged since that date. However, CRL now holds all the shares in Mineral Sales and is soon to acquire Cudgen's shares in Minsands Exploration.

There have been three significant events in the period since 1971 —

(a) Cudgen's cessation of mineral sands mining in 1976, leaving it as a mineral sands investor, rather than operator.

(b) CRL's abandonment of the labour intensive dry mining methods for capital-intensive dredging in 1978, ensuring its survival.

(c) The recently announced Gordon expansion, which underpins CRL's long term future on North Stradbroke Island.

CRL is classified a foreign company because of the 49.9 per cent overseas shareholding in Cudgen. This shareholding is held by the recently re-named Gencor (Australia), a wholly owned subsidiary of the South African based, Gencor Group — itself a merger of General Mining and Union Corporation.

The overseas shareholding component in CRL is approximately 26 per cent by virtue of Cudgen's 50.1 per cent interest in CRL. This is the lowest level of overseas ownership in the industry except for the partnership between Peko Wallsend and Kathleen Investments known as R & Z Mines.

It is also interesting to note that the Gencor group has a 30 per cent interest in Richards Bay Minerals, the major mineral sands mining and smelting project in the Natal province of South Africa.

CRL's MINERAL RESOURCES

To appreciate CRL, it is important to understand North Stradbroke Island and the highly dominant position CRL holds. It is a 34 kilometre long, 27,520 hectare island, which consists predominantly of sand dunes of various ages and heights, substantially fringed by swamps. In contrast to other eastern Australia mineral sands areas, corporations rather than individuals or syndicates have always been associated with mining on the island, thereby having greater stability.

Sand mining first commenced there in the late 1940s in the days of Titanium and Zirconium Industries (TAZI), which established a mining settlement at Dunwich, still the largest settlement on the island. Sand mining helped build up many of the facilities on the island — communication, mainland electricity supply, local water supply, roads and medical facilities. CRL was the relative newcomer when it pegged what were then considered to be lower grade leases, now covering nearly 60 per cent of the island.

The heavy minerals ilmenite, rutile and zircon roughly occur in the ratio 2:1:0.9. In terms of value rutile is by far the most significant.

At one stage in the early 1970s, CRL had three dry mining plants in operation, employing 430 people, mining what were then considered to be low grade — 0.6 per cent rutile — reserves. Nowadays, we regard high grade dredgeable reserves as anything above 0.25 per cent rutile.

Key areas on the island are now held by both Consolidated Rutile and Associated Minerals, who acquired TAZI's assets in 1968. AMC is now a member of the Renison Goldfields Group, and the base of its operations is in Western Australia, with its Eneabba and Capel operations. They have two small operations on the island, with total production far smaller than CRL's. There have been a variety of joint operations with AMC, the latest of which dates from September 1983 for contract mining of CRL's Amity lease. It was this new agreement which gave CRL greater ability to sell minerals other than its own production, to build up a customer base for the future, rather than sharing production as had been the case in the past.

It is estimated that the proven economic reserves will keep CRL in operation until at least the year 2000. Coupled with lower grade reserves which could be mined with changed technology, the life could extend well beyond that year.

AUSTRALIAN MINERAL SANDS INDUSTRY

Through its corporate link with Cudgen, CRL is to some extent a successor to the diverse entrepeneurs and syndicates that made the eastern Australian mineral sands industry so turbulent in past decades.

Higher grade reserves, the numerous proliferation of mining companies involved in short term operations, and the technical creativity of a broad group of people, have all left their stamp on the mineral sands industry of today. Far fewer companies and employees are now involved.

The key component of mineral sands is rutile, with zircon being a co-product. Throughout this address, emphasis is given to rutile, although zircon is covered.

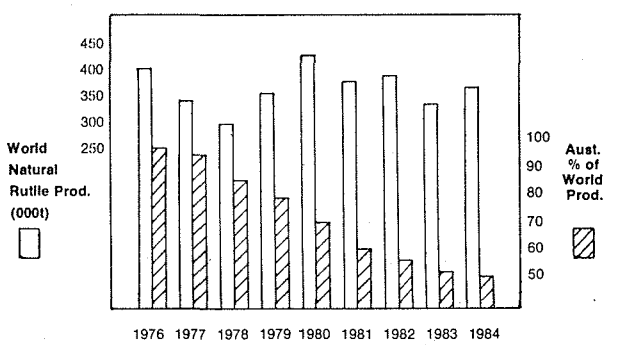
Figure 1 shows world rutile production from 1976, which marked Australia's peak at 390,000 tonnes, representing just over 95 per cent of world production. In contrast, in 1984 Australia's rutile production is estimated to be 185,000 tonnes or only 50 per cent of the world production.

This significant Australian decline is the net result of at least five interlocking causes —

(a) Reduction in head grades as the smaller, rich eastern Australian beach deposits were mined out;

(b) Restrictive environmental legislation, particularly in N.S.W., representing a major constraint on the industry as a whole;

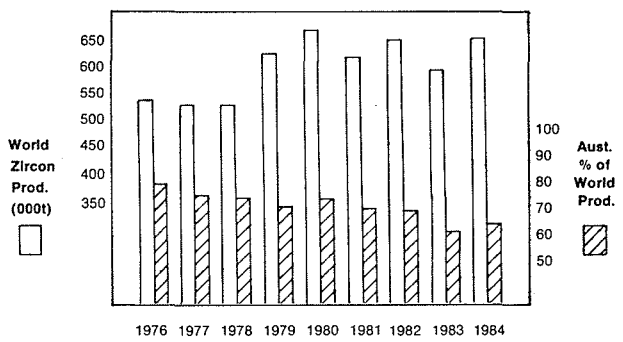
FIGURE 1
WORLD NATURAL RUTILE PRODUCTION
1976 - 1984
(000s tonnes)



	1976	1977	1978	1979	1980	1981	1982	(e) 1983	(e) 1984
Australia	390	325	257	279	312	231	219	175	185
India	4	5	6	5	7	6	6	6	6
Sierra Leone (e)	—	—	—	10	50	70	65	67	80
Republic of South Africa (e)	—	5	18	42	48	45	55	50	56
Sri Lanka	1	1	12	15	15	13	10	10	10
USSR (e)	9	9	9	9	9	9	9	9	9
USA	W	W	W	W	W	9	25	25	25
	404	345	302	360	441	383	389	343	371

(e) estimated
W withheld

FIGURE 2
WORLD ZIRCON PRODUCTION 1976 - 1984
(000s tonnes)



	1976	1977	1978	1979	1980	1981	1982	(e) 1983	(e) 1984
Australia	420	398	392	447	492	434	451	370	418
Brazil	3	5	4	3	5	5	5	5	5
India	10	11	11	12	13	15	15	15	15
Malaysia	3	2	1	1	0	1	1	2	2
Republic of South Africa	11	17	36	82	80	95	110	137	145
Sri Lanka	—	—	3	2	2	2	3	4	5
USA	80	90	75	70	70	60	55	55	55
	527	523	522	617	662	612	640	588	645

(e) estimated

FIGURE 3
MAJOR AUSTRALIAN MINERAL SANDS OPERATIONS

COMPANY	LOCATION OF OPERATIONS	ESTIMATED ANNUAL PRODUCTION LEVELS 1984 (000s tonnes)			MAJOR SHAREHOLDER	AUSTRALIAN OWNERSHIP
		RUTILE	ZIRCON	ILMENITE		
Consolidated Rutile Limited	North Stradbroke Island, Qld.	54	46	20	Cudgen R.Z.	74%
Allied Eneabba	Eneabba, W.A.	42	155	250	E.I. Du Pont De Nemours and Company	50%
Associated Minerals Consolidated	NSI, Qld. Eneabba & Capel W.A.	54	140	260	Renison Goldfields Consolidated Limited	51%
Westralian Sands	Capel W.A.	—	36	450	Tioxide Aust. Pty. Ltd.	60%
Rutile & Zircon Mines	Tomago, near Newcastle, N.S.W.	30	30	15	Peko Wallsend Pioneer	100%
Cable Sands	Bunbury, W.A.	—	6	130	Pioneer	100%
Currumbin Minerals	Currumbin, Qld.	5	5	—	Private Coy.	100%
		185	418	1125		

(c) Higher unit operating costs, making it necessary to have larger, longer life reserves to sustain more capital intensive operations;

(d) Production of larger quantities of substitutes for natural rutile,
e.g. high titanium slag and synthetic rutile;

(e) The fragmentation of — and lack of co-operating within — the Australian industry, which accentuated cyclical price movements.

Australian zircon production, as shown in Figure 2, has been relatively static because of the greater proportion being produced from the Western Australian ilmenite-based operations.

FIGURE 4
CRL PRODUCTION
(000s tonnes)

Year Ending June	Rutile	Zircon
1976	36.6	26.4
1977	38.8	25.1
1978 *	25.7	33.7
1979	32.4	33.2
1980	57.4	50.2
1981	59.7	49.9
1982	49.6	43.3
1983	45.4	37.8
1984 (Est)	53.6	45.1
Average 1976-1984	44.4	38.3
Less Mineral received from AMC contracts	6.8	5.3
Internal Production	37.6	33.0

* *Year of transition to wet-mining.*

There are only six surviving major mining mineral sands groups in Australia; only three of these are on the east coast. The largest of these is CRL, and its dominance of the east coast mineral sands industry will be even greater from 1985 onwards. Figure 3 lists the surviving members and current production estimates.

CRL SINCE THE MID 1970s

Despite the decline in Australian rutile production, CRL's production has remained at a consistent level. In some years it has benefited from additional mineral under various agreements with AMC, but has managed to keep an internal average throughput per annum of about 38,000 tonnes of rutile and 33,000 tonnes of zircon. Annual production levels since 1976 are shown in Figure 4. Figure 5 shows, however, a more fluctuating profit performance, mainly because of the cyclical rutile prices.

1978 was a year of very great significance, because that was the time when CRL shed dry mining techniques in

FIGURE 5
CORPORATE PERFORMANCE

Year Ending June	Profit After Tax $000	Total Assets $000	Earnings/ Share Cents	Dividends/ Share Cents
1976	2,003	18,814	23.4	15.0
1977	1,571	18,219	18.5	7.5
1978*	1,243	20,450	14.6	6.0
1979	2,532	23,004	29.8	18.0
1980	5,640	26,470	66.3	45.0
1981	3,232	25,866	38.0	37.5
1982	4,503	29,279	53.0	37.5
1983	3,508	30,402	41.2	27.5

* *Year of transition to wet-mining.*

favour of the largest cutter suction dredge in Australia to begin 24 hour, 7 day a week dredging operations at its Bayside deposit. Dry mining is labour intensive and requires higher cut-off grades. This is currently the case in Western Australia. Involving an expenditure of nearly $13 million in a 12 month period, the move to "wet mining" was a strategic move vital for CRL's survival. With the upwards movement in rutile prices, the bank loan to finance it was paid off in 18 months. CRL reported an after tax profit peak of $5.6 million to June 1980.

It would not be difficult for analysts to judge that we might be budgeting to exceed this peak in the coming years, when the full impact of CRL's Gordon expansion is felt, at the southern end of North Stradbroke Island.

GORDON PROJECT EXPANSION

Against a background of a declining Australian industry, it could well be asked "Why bring into operation a duplicate dredge?" The basic reasons are as follows —

(i) CRL has under-utilised dry mill capacity, currently operating on a 5/6 day week basis.

(ii) CRL benefits from incremental operating costs.

(iii) CRL has substantial available markets for eastern Australian rutile and premium zircon.

(iv) There is a favourable price outlook for rutile, due to strengthening demand at a time of reduced supply.

(v) CRL has sufficient long term reserves to justify such a development.

The initial key to the expansion lay in the recent $2.0 million upgrading of our existing operation, which enabled throughput to be increased from 2200 to 2800 tph. Duplicating this upgraded dredge and concentrator at Gordon at a time of favourable production costs and expectation of rising rutile prices, will give substantial cash flows back to CRL in the next few years.

In essence, CRL's little changed corporate costs are spread over approximately twice the tonnage. A similar argument applies to certain other cost factors, such as dry mill capacity mentioned before, and use of our rehabilitation team. Unlike many corporations or projects, our mining operations are nearby, thus enabling the use of common expertise and services.

Also of great importance, CRL has a breathing space to see what further steps can be taken within the mineral sands industry.

WORLD MARKET OUTLOOK

Titanium Products

Nowadays the vast proportion of Australia's rutile is used in one of three areas —

(a) The largest area is as a feedstock for pigment manufacture for paint and similar products through the chloride process (this process is environmentally far preferable to the now outdated sulphate route alternative).

(b) Welding rod coatings.

(c) Manufacture of titanium metal.

It is in the first category that the substitutional effect of high titanium slag and synthetic rutile has been, and will continue to be, felt. However, in our view there will still be a significant place for natural rutile over the next few years, retaining at least 50 per cent of the chloride route feedstock market.

FIGURE 6
ESTIMATED WORLD CONSUMPTION
(000 tonnes)

	1982	1983	1984
Natural Rutile	389	343	371
Synthetic Rutile	163	93	160
Slag	150	150	155
TOTAL	702	586	686
% Natural Rutile	55.4	58.5	54.1

NOTE: Slag for sulphate route pigment production not included.

Great expectations were held for the substitution of high titanium slag, produced by smelting ilmenites. However, with some exceptions, the technological ability of pigment manufacturers to adjust to lower quality feedstocks — both slag and synthetic rutile — has not met expectations, although in years to come this is likely to be rectified.

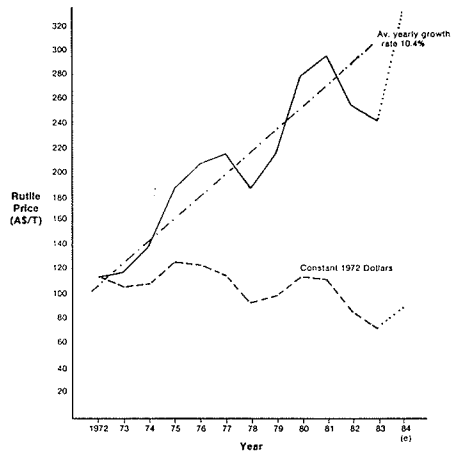
Rutile Price Trends

This substitutional effect, coupled with variable supply from Australia in particular, has promoted cyclical movements in rutile prices, as is shown in Figure 7, dating back to 1972.

From this it can be seen that for rutile, with peaks in 1977 and 1981, another peak can be projected for the next couple of years. In real terms, however, using 1972 as a base, the price of rutile has not grown and in fact has decreased by an average of 2 per cent per annum.

In part, pricing has been influenced by the variable marketing performances of some Australian organisations, which has been partly rectified only in the last few years. To some extent, the market was over-influenced by trading organisations. Traders will always have a vital role to play with certain countries and clients, but they often ended up taking positions as

FIGURE 7
AVERAGE AUSTRALIAN FOB EXPORT PRICES
RUTILE



principal. This helped to de-stabilise markets — and producers. In my view, the overall role of a trader will be substantially reduced in the period ahead, particularly in rutile, as major pigment manufacturers become conscious of the limited number of suppliers and try to lock into more effective forms of longer term contracts.

1984 Contracts and Prices

In CRL's case, for example, we now have several three year contracts to end 1986, with the right to extend for an extra year to be exercised each June. Prices are to be fixed towards the end of the previous calendar year. Inevitably, there are still going to be fluctuations in price. For example, present bulk rutile prices quoted to the major pigment manufacturers lie in the range of fob $A320 — $A340 for 1984, which is in sharp contrast to the excessively low price of $A220 — $A250 for 1983.

This major increase in price has not yet filtered through to other smaller users. However, the spot market (which is now approximately $A350-$A360 per tonne bulk) is rising, and prices are likely to move higher in the next twelve months. It must be recognised that the spot market is thin and very imperfect.

At least 80 per cent of CRL's rutile production is sold under contracts. This level is planned to be maintained in the future.

Several factors have led to this price improvement in 1984 —

(i) Closure of one Australian producer, Mineral Deposits Limited.

(ii) Curtailment of production by AMC during 1983.

(iii) Sierra Rutile, through its new marketing arm has a secure market share by competitive pricing in 1983, and has reversed its pricing requirements.

(iv) Reduction in surplus stocks.

(v) The action by Kerr McGee Corporation to buy 20,000 tonnes of rutile in 1983, as a means of lifting the price and making its synthetic rutile process more economic.

Rutile Pricing beyond 1984

It is CRL's view that the reasons for prices rising in 1984 will sustain a further upward movement in 1985. However, we would be concerned if the increase was so large as to trigger a significant new round of substitution. While we still see some firming beyond 1985, it is difficult to be as positive because of the significant effect of US economic performance in the aftermath of their 1984 election. We see competitive pressures increasing due to higher capacity from Richards Bay Minerals in 1986 or 1987, and some further moves into synthetic rutile, in which AMC could well have a big role to play because of their particular expertise with their process.

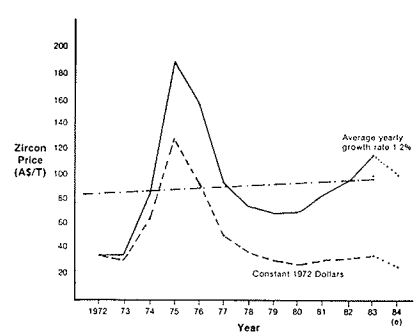
All contracts are still written in $A, with settlement taking place in other currencies, if required. However, with competitive pressures from sales from South Africa and Sierra Leone, which are priced in $US, there is likely to be some pressure for $US pricing, particularly in any period of market downturn.

Zircon Prices

Zircon prices, as in Figure 8, show a significant abberration in 1975 because of major Japanese demand which had the effect of pushing prices far too high — with an inevitable major slump. Zircon markets are much more fragmented — covering the foundry, ceramics and refractory industries — with nothing like the concentration of purchasing power of the large pigment manufacturers.

On the zircon front, we do not see the same intrinsic reasons for such a major strengthening in prices: rather the improvement will be more gradual. In CRL's case, the production of a large higher proportion of higher value premium product means we should be able to show some improvement in pricing —although modest — in the years ahead.

FIGURE 8
AVERAGE AUSTRALIAN FOB EXPORT PRICES
ZIRCON



KEY ISSUES AFFECTING CRL IN THE FUTURE

My remarks so far have outlined the rationale behind the expansion of CRL's role in the Australian mineral sands industry. There are however, certain issues which bring the mineral sands industry into prominence, and as such, could be deemed by investors as downside risks.

Obviously, the most significant of these relates to environmental issues which reached such prominence in the 'trade off' which featured in the 1976 political decision by the Fraser government whereby mining on Fraser Island was stopped because of environmental pressures, resulting in substantial compensation claims.

In more recent times, there has been continuing debate about the possibility of AMC mining already granted leases covering 6.4 per cent of Moreton Island. This was recommended in the 1976 Cook Report, a report commissioned by the Queensland Government on the future development of Moreton Island.

As the current Federal Government has made it clear that mining even 6.4 per cent of Moreton Island is contrary to its policy, it would now appear unlikely that operations would proceed there. An obvious question is "Will such a similar fate beset nearby North Stradbroke Island?".

In our view the answer is clearly 'No'. North Stradbroke Island has a 30 year history of mining, so a degree of tacit acceptance or equilibrium has been established there between the mining and environmental groups. This is particularly shown in the very positive reactions given to our recent expansion announcement. Further, the Queensland Government has under consideration a major strategic development plan which recommends the sequential development of the island with selective urbanisation, recreation, and reserve uses following mining. From CRL's point of view this is most attractive as it implies a priority for mining in existing lease areas first. We can modify our rehabilitation programs to suit subsequent land use, so mining activity has additional consequential social and community benefits.

Another issue often raised relates to export licences. There is a degree of public confusion on this subject, because for mineral sands it hinges entirely on obtaining environmental clearance for leases being mined. Under the current policy of the Department of Trade, if a lease has environmental clearance, there is no impediment to the grant of an annual export licence for mineral sands mined from that lease. Export licences are not granted for any mineral on a blanket basis for years in advance.

Thus the critical issue in securing export licences is to gain the initial environmental clearance. This clearance has been obtained for the Gordon areas. It remains the particular issue in relation to any proposal to mine Moreton Island.

The only other factor requiring comment is the possible construction of a bridge to North Stradbroke Island in the 1990s. This is a matter still under consideration by the Queensland Government, but is unlikely to interfere with CRL's reserves or operations.

CONCLUSION

From this review, analysts may have some greater understanding of CRL's role in a smaller, more mature, yet efficient, mineral sands industry. With CRL clearly becoming Australia's largest rutile producer, and probably only second to Sierra Rutile in the world, we hope to have been able to demonstrate to you that CRL is both ready, and able, to accept the increased responsibility that will fall onto our shoulders.