SOUTH AFRICA

By a Special Contributor

South Africa's mining industry is in a state of considerable flux. Gold production continues to decline, while production of metals such as platinum, coal and titanium is set to expand. Underlying the changes have been the shifts to London residence of the two largest mining groups, Anglo American and Billiton. The result is that South Africa can no longer count on investment in new mining ventures by mining groups locked into the country by exchange controls. Rather, it has to compete with other countries for the investment dollar.

Change is also taking place in the ownership of existing mine properties. Companies such as Harmony have acquired older gold mines from the likes of AngloGold and are operating them with lower overheads and more efficiently. However, virtually the entire mining industry has benefited from a long period of labour peace. Wage negotiations with the National Union of Mineworkers (NUM) are generally managed without friction, with the union accepting modest wage increases in exchange for job security or commitments by the mines to re-train employees who are laid off.

Aluminium

South Africa has no bauxite reserves of its own, nor can it ever count on any being found and exploited in the entire southern African region. The country's aluminium production, then, is based on long-term contracts for the delivery of cheap electricity from thermal power stations in Mpumalanga province, and alumina which is imported largely from Australia. Next in line could be a smelter at Coega, an emerging industrial development zone near the coastal city of Port Elizabeth. BHP Billiton has been weighing up the possibility of establishing a smelter in the area and is expected to decide between this South African site and alternatives in Australia and Brazil before the end of 2002.

As it is, aluminium smelting is located at two adjacent sites near the port of Richards Bay on the country's east coast. BHP Billiton operates both smelters and in February 2002 announced a US$449 million expansion that would add an annual 132,000 t to its Hillside smelter's current 515,000 t annual capacity. The expansion has been planned around a 25 year electricity supply contract with Eskom, South Africa's state-owned electricity utility. The Hillside expansion, essentially a third potline, is due to be commissioned early in 2004 and to reach full capacity operation by mid-year. Alumina purchase contracts are linked to agreements that Australian suppliers buy half of the aluminium metal produced by the South African operation.

Antimony

Consolidated Murchison, South Africa's sole producer of antimony has seen a steady decline in its fortunes since its heyday in the 1970s. Chinese product, which has flooded the world market and forced the complete closure of antimony mining in, for example, Bolivia, has cut Consolidated Murchison's share of the global market. It now stands at about 8%-10% of the world total, and the mine in the north-eastern part of South Africa is kept afloat by production of by-product gold. China would, nevertheless, find it difficult to put Consolidated Murchison under. The South African company delivers all of its production of antimony sulphide concentrates to an oxide plant managed by the mine but jointly owned by two US companies. Antimony Products converts the concentrates into crude antimony oxide for export to refineries in Mexico and the US. The US owners of the oxide plant have agreed secure purchasing contracts with the South Africans and are unlikely to ditch them in favour of an unpredictable China.

At the mine, Consolidated Murchison is committed to maintaining ore reserves

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equivalent to six years of production. That is likely to remain so despite the fact that reserves at the mine's Athens shaft are falling and leading to curtailed production. Athens has a four-year life expectancy at its production rate of 10,000 t/mth. The Athens shortfall will be made up with ore from Beta shaft, though management is optimistic that mining at Athens could be extended to 1500 m below surface from the present 900 m. By the middle of 2002, the Athens and Beta shafts are both expected to be producing ore at a monthly rate of 10,000 t, while the Monarch shaft will match the other two combined. However, if the underground exploration, particularly in the deeper levels, picks up new ore reserves, then Consolidated Murchison could find itself with three productive shafts, each with a monthly ore capacity of 20,000 t. Processing this would call for an expansion of the treatment plant, which can now process 50,000 t/mth of ore if it operated seven days a week.

Asbestos

What little remains of South Africa's formerly large asbestos mining industry came under threat in the past year as former employees of Cape Plc suffering form asbestosis successfully won compensation in London's High Court. Griqualand Exploration and Finance Co. (Gefco), which produces blue asbestos (crocidolite) in the Northern Cape, near the mines formerly operated by Cape, was particularly threatened by the prospect of legal action for compensation. Msauli, which produces white asbestos (chrysotile) near South Africa's border with Swaziland was less threatened. Nevertheless, both companies have terminated their listings on the local bourse, the JSE Securities Exchange SA, though both said their delisting had nothing to do with the threats or fears of litigation.

Chrome

The past year has not been easy for South Africa's ferro-chrome producers as declining prices led to capacity being idled. By the start of 2002, no early recovery in demand was being forecast for 2002 while production capacity was in the process of increasing with new smelters set to come on stream in the near future. SA Chrome brought one of the furnaces at its new ferro-chrome facility on stream in March 2002 and was expecting the second to be commissioned in May. Total production from the R700 million facility is planned at 250,000 t and costs are expected to be in the industry's lower quartile. Financing the SA Chrome project represented something of an innovation for South Africa. Bateman Projects, which built the plant, accepted responsibility for any cost over-runs but also accepted a 5% interest in the venture as part of the financing.

In contrast, Samancor and Xstrata both moth-balled furnaces, with Samancor cutting ferro-chrome production by 30% from its 1 Mt annual capacity in the second half of the year. Xstrata, whose capacity is virtually the same as Samancor's, did much the same but subsequently leased some of the moth-balled capacity to Anglo American Platinum (Amplats).

The R375 million chrome expansion of Assmang's Machadodorp work was completed in the second half of 2001 and production started towards the end of the year. The expansion included a closed 54 MVA furnace and a 350,000 t/y pelletising plant. This has resulted in an increase in annual production to more than 300,000 t of chrome alloy. Assmang has invested R750 million in expanding its chrome business in the past few years. Developments have included the acquisition of the Dwarsrivier chrome resource and property, and construction and commissioning of Dwarsrivier chrome ore mine.

Coal

South Africa has coal reserves sufficient for a further 40 years of full production, according to estimates by Xavier Prevost, chief minerals economist at the coal and hydrocarbons division of South Africa's Mineral Bureau. Addressing the Coaltrans conference in Cape Town early in 2002, Mr Prevost estimated that the country's coal reserves were some 34,400 Mt. Given an output of about 297 Mt/y and

incorporating an annual 3% compound growth rate, Mr Prevost believed that only some 20% of these reserves will be left by 2042. He added that it was likely that these residual reserves would remain un-mined because of the methods used when they were mined earlier, as well as a lack of operational infrastructure.

At present South African coal exporters are working on expansion plans that, over the next four years, should allow an extra annual 20 Mt to be exported through the Richards Bay Coal Terminal (RBCT), the port of Durban and the port of Matola in Mozambique. The largest expansion will be RBCT's R700 million (at end-2001 exchange rates), phase-five expansion. The RBCT expansion was approved in early-2002 and in March initial financing was agreed. RBCT's major shareholders are BHP Billiton's South African coal company, Ingwe, which has a 37.43% stake, and Anglo Coal, which holds 27.48%. The terminal operator was awaiting finalisation of planning and environmental issues at the start of 2002. The expansion will lift RBCT's annual export capacity to 82 Mt and will come on stream in 2004. Annual capacity could be increased to 85 Mt at comparatively little additional capital cost. However, this is likely to be the upper limit, at least for the foreseeable future, given the current estimates of South Africa's remaining coal reserves. Durban's coal export capacity stands at 3.5 Mt a year and is not set to increase appreciably. At Matola in Mozambique, expansion work is in hand to lift annual capacity from its current 1.0 Mt to 6.5 Mt by the middle of the current decade.

The coal industry is largely dominated by white-owned firms, but is moving towards partnerships with black economic empowerment companies. 'Black' companies will acquire a portion of RBCT's capacity when expansion is completed, and it is highly likely that Eskom, the state-owned electricity utility, will favour black-owned companies when signing new coal supply contracts. As it is, the RBCT expansion will be undertaken by black empowerment company South Dunes Coal Terminal (SDCT). Anglo Coal and Ingwe will forgo their rights to a share of the RBCT capacity increase which will be shared by Eyesizwe, Duiker, Sasol Coal, Kangra and Total Exploration. Late in 2001 it was announced that Anglo Coal and Ingwe would be selling some of their coal interests to Eyesizwe, a black empowerment company. Eyesizwe subsequently paid R360 million to acquire four collieries together producing some 18 Mt/y of coal worth an annual R1 billion.

Copper, Lead, Zinc

South African companies operating in the older metals markets were crimped by low prices and industrial action in 2001. In the 12 months to December 2001, Palabora's net profit fell to R220 million from R237 million in the preceding year. A strike that halted production for more than three weeks in May and June, increased production costs and a rise in tax payments led to the drop in earnings. According to general manager Mike Humphries, the main effect in 2001 was the industrial action. Although Palabora's average copper prices achieved in the year fell to 0.744/lb from US$0.848/lb for 2000, Mr Humphries said that weakening of the rand against the dollar and the company's industrial minerals businesses helped compensate for the decline in the dollar copper price. Palabora's production of copper in concentrates fell to 78,400 t in 2001 from 117,000 t in 2000.

The company's project to develop an underground mine had been in progress for 68 months at the end of 2001. A total of 56,700 m^2 had been undercut by that date. The drawpoint development rate has shown steady improvement during the year and is currently running at a sustainable rate to achieve 120 drawbells by the end of 2002. Infrastructural development has also progressed well with the complete excavation of the number 2 crusher chamber as well as 57% and 33% of crushers numbers 3 and 4 respectively. All surface construction is complete. Indications are that caving has commenced with roughly 100,000 t of material

having been drawn from the drawpoints by end-2001. The recent devaluation of the rand versus the US dollar has resulted in significant volatility in the project estimated final cost (EFC) in terms of both currencies. By year-end, the unspent portion of the project EFC stood at approximately R500 million of which 30% was foreign exchange denominated.

O'Okiep, a small copper producer owned by mid-tier mining group Metorex, is turning to its slag heaps to extend operations beyond the early months of 2002 when mine ore reserves were due to become exhausted. O'Okiep has been spending R50 million on a plant to handle the tailings and extend operations for another six years at least. The operation is expected to produce about 800 t/y of copper and its life could be extended to 10 years. O'Okiep's output in the financial year to the end of June 2001 was slightly more than 14,000 t of blister copper destined for export. A recent feasibility study of the slag dumps showed them to have a copper grade of 1.5%.

In zinc, Anglo American decided to defer development of its Gamsberg project, given the weakness of metals prices. The Gamsberg deposit is complex in two respects metallurgically and environmentally. Feasibility studies have been done on the project since 1978, ranging from producing concentrate under the then-owner Fluor Utah to producing zinc metal. Two feasibility studies on zinc metal were conducted, one in 1984 by Anglo and one in 1993 by Gold Fields. The latest feasibility study was completed in 2000 and board approval was due in September 2000. When the feasibility study was completed the zinc price was US$1,250/t. Analysts argued that it was not a good idea to enter the market, especially a mine such as Gamsberg, which is situated in an ecologically sensitive area in the Northern Cape, and which has aroused strong reaction from environmental lobbyists. On top of this, Anglo is developing its Skorpion Zinc project in Namibia, which will add extra zinc to the market.

Diamonds

The year 2001 marked one of the more significant milestones of South Africa's mining history — the disappearance of De Beers from the stock exchange and its return to private hands. Minority shareholders were bought out and ownership of the diamond company devolved to the Oppenheimer family and Anglo American which each now hold 45% and the Botswana government with 10%.

The change in ownership coincided with a sharp decline in rough diamond sales by De Beers and the imposition of delivery quotas on producers who sell through the De Beers' Diamond Trading Co. (DTC) cartel. In 2001, rough diamond sales of US$4.45 billion were 21.5% lower than 2000's US$5.67 billion, the second half's 14.9% decline was less than the 25.5% recorded in the first half. Rough diamond sales had been particularly strong in 2000 as cutters restocked after the millennium sales boom led to stock reductions. In contrast, the economic slowdown of 2001 led to destocking in the cutting centres and by retailers and, consequently, to lower sales by the DTC. The sales downturn, in its turn, led De Beers to impose quotas on outside producers who sell through the DTC.

Towards the end of 2001, pre-Christmas retail sales were higher than had been expected in the US, where more than half of the world's diamond jewellery is sold. December's sales were higher than in December 2000, though declines in countries such as Japan dragged down the global total. Initial apprehensions of a sharp reduction in US retail sales of diamond jewellery in the wake of September 11 were not realised.

De Beers did, in fact, lose market share to competitors in 2001, but this has left managing director Gary Ralfe unfazed. To the extent that the DTC remains the market's swing supplier of rough gems, De Beers' sales will generally fall more rapidly than others' when the market weakens and rise more rapidly when it strengthens. However, De Beers has had to handle a threat that is

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potentially more serious than a simple market downturn — the question of conflict diamonds. The dangers of a consumer backlash against diamonds because of the conflict diamond issue was ignored by De Beers for a long time. Now the company has awoken to the threat and is promoting diamonds with 'guarantees' of being sourced from non-conflict zones.

Mvelaphanda, the black economic empowerment company, struck two deals giving it a toe-hold in the diamond industry during the past year. The first involved the acquisition of 25% of the shares of Trans-Hex in August 2001. This was followed in February 2002 by an agreement with De Beers which would give Mvelaphanda a one-third interest in De Beers' prospecting and participation in any mines which might be established. The agreement allows for De Beers to manage any future mines with an annual production value of US$70 million or more, while Mvelaphanda would manage any smaller mining operations.

Gold

For many years, South Africa's gold miners have had to grapple with stock market valuations placed on their operations that are less positive than those on gold mines in North America or Australia. The investment discount may be due to political considerations or it may be because South African investors themselves prefer to value gold shares on the present value of future dividend streams rather than, as is common in North America, the value of gold in the ground. Whatever the reason, it appeared to contribute to the failure of AngloGold, South Africa's largest producer, to win control of Australian gold miner Normandy, which was won by Newmont at the start of 2002. The outcome of that will almost certainly colour the strategy of South Africa's gold majors in future.

With the opening of Avgold's new gold mine in the Free State province, it is unlikely that more than one new major gold mine will be opened ever again in South Africa. There may be scope for a new mine as an extension of the Target orebodies, but it can reasonably be assumed that another greenfields mine is out of the question. AngloGold itself is concentrating on developing mines elsewhere on the African continent, generally in partnership with others, and the same goes for other smaller South African gold companies.

AngloGold is also emphasising cost containment and, along with others, has been helped on the dollars per production ounce measure by the past year's sharp decline of the South African currency against others. In the December quarter of 2001, for example, AngolGold's average production costs were US$159/oz while, at the company's Great Noligwa mine, production costs were US$97/oz. As it is, AngloGold 's strategy has been to sell high-cost operations. During the latter part of 2001, for example, the company sold Freegold (the four mines that made up its Free State operations) to Harmony and African Rainbow Minerals. This reduced AngloGold's annual gold production of some 7 Moz by 1.2 Moz.

African Rainbow Minerals is a black economic empowerment company which has been slowly accumulating a portfolio of mining interests - gold and platinum in particular - in partnership or collaboration with older mining companies. Harmony specialises in rejuvenating older mines and operating them profitably. Its recent acquisitions include the veteran Randfontein Estates mine, which has been operating in one form or another since the 1880s.

Gold Fields, South Africa's second largest gold producer, has also been shedding unprofitable or marginal operations. In 2001, it gave Harmony first option on its St Helena and Oryx properties in the Free State, though the option had not been exercised by early-2002 as rising rand-denominated gold prices altered the profit prospects of the two mines. However, Gold Fields' strategy underscores the unlikelihood of new gold mines being developed in South Africa. The company's thrust has been into Australia through acquisition and into Ghana

through new developments. At home in South Africa, Gold Fields' Driefontein mine (1.2 Moz annual production), Kloof (1 Moz) and Beatrix remain the group's underpin and will provide the cash flows needed for future developments. However, Gold Fields' opportunities appear to remain restricted by South Africa's stringent exchange controls.

Harmony, which began life as a comparatively low-grade producer in the Free State half a century ago, now manages the Evander gold mines sold several years ago by Gencor, Randfontein, Freegold and Elandskraal which was acquired from Anglogold at the end of 2000. The company claims that its skill lies in operating mines with lower overheads and other costs than larger mining groups were capable of. It has, however, also been pursuing acquisition opportunities outside South Africa. Its latest, in March 2002, was to win control of Australian gold producer Hill 50.

Avgold brought its new Target mine in the Free State into production early in 2002. Target has an annual gold production target of 350,000 oz and cost some R2.1 billion to bring into production. To the north of the new mine Avgold is drilling the so-called Paradise area which, it is hoped can eventually be exploited as an extension of Target. Preliminary indications are that Paradise could produce some 150,000 oz/y of gold.

The other gold mining group, centred on JCI Gold, has been surrounded by contention for some years. The company is controlled by the Kebble family whose commitment to sound corporate governance has been publicly called into question. The company's asset is an investment in Western Areas which, in its turn, has a 50-50 joint interest with Placer Dome in the developing South Deep mine some 50 km west of Johannesburg.

Industrial Minerals

Industrial minerals have not, generally, been uppermost in the minds of observers of South Africa's mining scene. However their contribution to the country's total minerals output and exports is not insignificant. At present South Africa supplies only some 5% of the world's fluorspar. The market is dominated by China. However, South Africa probably has some 15-20% of the world's reserves and could, insofar as these sort of figures mean anything, continue to produce at current rates for the next 300 or so years.

Near Pretoria, for example, mid-tier mining group Metorex operates the Vergenoeg fluorspar mine located on about one tenth of the world's known fluorspar reserves. Vergenoeg produces almost 125,000 t of acidspar each year for export and more than 15,000 t of the lower-grade metspar sold to local steelmakers. Further afield, Sallies' Witkop mine produces an annual 120,000 t of fluorspar for export and has a life expectancy of at least 100 years. The fact is that these mines have firm contracts with foreign customers, particularly in England. In other cases, such as andalusite, production is specifically earmarked for a single foreign customer.

Mining company Samret, which is owned by the French minerals firm Imerys, operates three mines in the north-western corner of South Africa and produces some 200,000 t/y of the mineral. Virtually the entire output is exported to France, from where it is sold to European steelmakers as a furnace liner. In South Africa the mineral is converted into refractory furnace liners.

Iron Ore

The past year has seen a scramble for control of South Africa's best iron ore deposits - a scramble that brought to the surface much corporate bitterness. The repositioning began early in 2001 when Anglovaal Mining (Avmin) acquired a 13% stake in steelmaker Iscor. Along with the state-owned Industrial Development Corp. (IDC), which owned 2.7% of Iscor, Avmin attempted to oust Iscor's board. This took place as Iscor itself was planning to separate its steelmaking and iron ore mining interests. In the event, Avmin failed and, subsequently, sold its stake in Kumba, the iron ore part of the old Iscor, to Anglo American.

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Avmin, along with Associated Ore, has iron ore reserves in the Northern Cape, near to those of Kumba, and the idea mooted was to work them jointly and efficiently if Avmin were to control Kumba. One improvement proposed was that iron ore from an Avmin mine should be delivered to Iscor's steelmill near Johannesburg while that from a Kumba mine would be exported through Saldanha Bay. As it was, the sales were in the opposite direction and ore trains were passing each other as they headed towards their domestic or export railheads. By March 2002, Anglo American had acquired 10% of Kumba and 34.9% of Avmin, inter alia ending decades of control of Anglovaal by the Menell family. The acquisition positioned Anglo American to become something of an arbiter in the future development of South Africa's vast iron ore reserves.

Manganese

In an industry where demand is determined by the comparatively small rate of growth of world steel production, the basic business strategy is to ensure that in the manganese market business remains business as usual. That, at least, is the approach of South Africa's two main producers, Associated Manganese (Assmang) and Samancor. The world's steel makers use about 18 Mt of manganese ore each year, though much of that is comparatively low grade. Four countries, South Africa, Brazil, Australia and Gabon, supply the essential 8 Mt or so of the richer ore, ore with a manganese content in the region of 48%.

Apart from the location of economically exploitable deposits, there are significant market barriers to entry. Relations between producers and steel makers run deep. The steel and alloy makers need to blend the ores and alloys they buy to improve the qualities of their feedstock. For example, South African ore, which has a low phosphorous and high iron content, is blended with Gabonese ore, which may be higher in manganese but tends to be vitiated by phosphorous.

Though world steel production slipped in 2001, demand for South African manganese was helped, as in recent years, by the rise of Chinese production. Efficient US steel makers use about 6 kg of manganese in every tonne of steel they produce. China's less efficient steel plants tend to use 10 kg, though that should eventually fall to US benchmark levels with time. At first blush, the steel industry's problems might be seen as signalling competitive pressures leading to price cutting to retain sales in a weaker market. Except that in this mature industry the manganese producers know that undercutting would be far too costly. The major ore and alloy producers such as Assmang, Samancor, Brazil's CVRD, Eramet in Gabon and Australia's Consolidated Minerals know that it makes economic sense to follow each other's pricing leads. And the South African producers make it clear that they are not considering taking advantage of the rand's decline against the dollar to undercut competitors from other countries.

At the end of 2001 manganese ore was priced at US$2 a unit. That is, US$2 for every 1% of manganese content of the ore. As usual, 2002's annual contract benchmark prices will be set by sales negotiations with Japan. The first indications of likely trends for the year will come from the iron-ore sales negotiations that started in January and that will be implemented at the start of the Japanese fiscal year in April. Generally the first producer to settle with the Japanese steel makers sets the trend for competitors. As Assmang's Desmond Sacco makes clear, everyone in the manganese ore industry realises that there is nothing to be gained by rocking the boat by cutting prices. So while prices may slip slightly in 2002, any fall should only be a matter of a few cents per unit. Prices during 2001 were about 4% better than those of 2000. Importantly, as far as the South Africans are concerned, there is little likelihood that advantage will be taken of the rand's decline against the dollar to attempt to undercut competitors' prices.

It is arguably this sort of market stability that allows ore and alloy producers to plan new or replacement capacity. Assmang is developing

what is essentially a new R517 million mine at the Nchwaning mine near Postmasburg. This will eventually replace capacity as other parts of the Nchwaning ore body are depleted. Assmang has also switched some capacity at its Cato Ridge alloys plant to produce silico-manganese in place of high- carbon ferromanganese, taking a cue from shifting market demand as technology changes.

For several months in 2001, and into the start of 2002, market talk in South Africa was that Anglo American was considering the sale of its 40% interest in Samancor. BHP Billiton owns the other 60%. The rumours were denied by the companies said to be involved. Samancor's annual output is in the region of 2.16 Mt of manganese ore and 397,000 t of manganese alloys. Samancor Manganese exports ore to ferroalloy producers worldwide and a small tonnage is sold into the local market. The ore is converted into alloys at the company's Metalloys plant at Meyerton in Gauteng Province and Temco in Australia. Close to 85% of alloy production is exported. Ore is converted into manganese metal by the Manganese Metal Co. in Nelspruit and Krugersdorp. Samancor Manganese also manages the production of dense-media ferrosilicon.

Platinum

South Africa's platinum industry is in the midst of its greatest expansion, with each of the principal producers adding capacity that will lift the country's output by more than half over the next four or five years. Most of the expansion, though, is being managed by the country's two largest companies.

Anglo Platinum (Angloplat), the world's largest producer, is planning to spend R12.6 billion to lift its annual platinum metal production to 3.5 Moz by 2006 from 2.1 Moz in 2001. Impala, South Africa's second largest producer, will be hiking its annual production to 1.6 Moz from 1.1 Moz over the same period.

In contrast, Northam Platinum, now jointly controlled by black empowerment company Mvelaphanda Holdings and Angloplat, suffered a fall in production in the financial year to end-June 2001. This was due to geological problems and the immediate future will be a period of consolidation on the Merensky reefs while opening up new capacity on the UG2 reef.

Collaboration, too, is becoming one of the names of the game. Anglovaal Mining (Avmin) and Impala are collaborating to establish a new mine on the Dwars Rivier farm in Mpumalanga Province. The mine is planned to have an eventual annual platinum metal output of between 160,000 oz and 170,000 oz.

In a parallel development, Angloplat and Lonmin Platinum (Lonplats) are collaborating in a R1.4 billion venture to establish a mine that will eventually produce an annual 230,000 oz of platinum and 110,000 oz of palladium from ore reserves that straddle the boundary between the two companies' properties. At this venture, known as Pandora, Lonplats will provide the shafts, infrastructure and production at its neighbouring Eastern Platinum mine.

South Africa's platinum producers remain confident, despite warnings from some quarters that excess capacity could adversely affect prices of platinum group metals. Planning of the new expansions has generally been based on platinum prices in the region of US$200/oz to US$400/oz. These plans were, though, formulated when the rand:dollar exchange rate was in the region of R8 = US$1. Late last year the rand went into sharp decline that, at one stage, took it to the region of R12 = US$1, and the South African companies, whose costs are largely rand-denominated, are being helped by the rand's decline.

Titanium

South Africa's titanium producers are among the most secretive in the world of minerals. As an example, analysts reckon that titanium was the largest individual contributor to the pre-merger profits of mining group Billiton. And yet the mining company offers precious little tangible information on the product. The fact is

that the Richards Bay Minerals operation has been experiencing technical problems this past year or so and may not retain its position among the world's leading producers for many more years, competitors claim. Apart from that, development of new reserves, which involve the exploitation of environmentally-sensitive coastal dunes, have been halted by environmental concerns.

Nevertheless, other South African producers are turning reserves to account on the country's east coast. In 2001, before its own separation of its steel and mining divisions, steelmaker Iscor sold 40% of its mineral sands venture to the Australian mining company Ticor for close to R1 billion. The payment will be used to fund construction of a smelter to produce titanium dioxide. Iscor was itself the major shareholder in Ticor and this ownership has transferred to Kumba, the mining arm separated from Iscor in 2001.

Other partners were being sought with no success last year and Ticor will probably exercise an option to increase its shareholding in the venture to 100%. T he new Richards Bay smelter is due to be commissioned in the first quarter of 2003, and should reach design capacity by 2005. Kumba owns additional reserves in South Africa's Eastern Cape and Northern Province, but exploitation plans have yet to be announced.

Commodity Summary 2001 ('000 t except where stated)

	Production	Sales	Sales (R million)
Gold (kg)	394,765	370,376	27,686
Silver (kg)	109,570	26,482	142
Diamonds (ct)	11,167,416	na	na
Palladium (kg)	62,142	na	9,974
Platinum (kg)	129,746	na	17,309
Rhodium (kg)	13,453	na	5,370
Ruthenium (kg)	19,329	na	na
Chromite	5,502	5,529	1,002
Cobalt (t)	371	346	68
Copper	141.9	142.9	1,922
Iron ore	34,757	34,892	4,128
Lead in conc.	50.7	55.8	116
Manganese ore	3,266	na	1,301
Nickel	36.4	36.1	1,775
Uranium oxide (t)	1,065	na	na
Zinc in conc.	61.2	56.3	278
Asbestos (t)	13,393	21,171	42
Silica	2,132	2,420	131
Vermiculite	156.6	159.6	129
Fluorspar	286.4	313.9	237
Gypsum	382.8	381.3	17
Coal	224,182	218,682	5,813

Source: Department of Minerals and Energy.

na : not available.

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