Fellows Dinner, Geological Society of South Africa
Johannesburg, 10 September 2008
"Facing up to the Mining Industry's Challenges"

Fellows of the Geological Society of South Africa, distinguished guests, ladies and gentlemen… It is indeed a great honour to receive this award tonight. For me, personally, it is further affirmation of the ongoing value of my grounding in the geological field, a formative experience out of which I developed the courage to take chances and open my world so far beyond what was imaginable at the time. Indeed, when I look at the leadership of the major players in world mining today, it is surely not without significance that Anglo American's chairman Sir Mark Moody-Stuart, Rio Tinto's CEO Tom Albanese, Lonmin's CEO Brad Mills and myself all started out as geologists.
And I feel once more this evening that special kinship that we geologists enjoy. Tonight I want to talk, through the prism of a modern global mining company, about the challenges the mining industry is facing on so many fronts.

I would like to start by saying something about Anglo American. It is one of the world's top five mining groups and occupies a position around number ten in the London Stock Exchange's FTSE 100 Index. We employ around 160,000 people and have an operating footprint in 45 countries. Our market capitalisation is around 75 billion dollars.

At the halfway stage in our financial year, we announced an operating profit of a record 6.2 billion dollars, 30 per cent higher than a year ago, while our underlying earnings totalled 3.5 billion dollars, up 14 per cent.

As you all know, our Group is, by some measure, the number one in platinum and, through our associate company De Beers, in diamonds too. We also have significant, and growing, positions in copper, iron ore, nickel and coal. And it is my ambition that Anglo American becomes the leading global mining company. Not necessarily the biggest – but the partner of choice, the investor of choice and the employer of choice.

In addition, our 45 billion-dollar project pipeline, spread across all our core businesses, is one of the strongest in world mining today.
We have projects under way or that have been given approval amounting to about 15 billion dollars, while we have around 30 billion dollars' worth of projects at various stages of feasibility, pre-feasibility or under consideration.
This is anticipated to lead to a fivefold increase in iron ore production around the middle of the next decade. Our Base Metals division expects to double our output of nickel in three years and to double copper production in five years. We plan to grow our metallurgical coal output by 70 per cent in two years' time.

Our suite of platinum projects – overall, the biggest capital expenditure program in the South African mining industry – is making steady progress.

And just a few weeks ago, De Beers opened two diamond mines in Canada, including the first underground diamond mine in that country.

In short, Anglo American is a company with huge upside potential in an industry that could not be more charged with interest and scope. The commodity sector today is driven by unsurpassed demand from China, India and Brazil.

Indeed, if we look at the so-called ‘BRIC’ countries – Brazil, Russia, India and China – it has been estimated that 21 trillion dollars will need to be spent on infrastructure alone over the next decade. Of that amount, China alone will account for 9.3 trillion dollars, with some 350 million people moving from the rural areas to urban areas.
That all adds up to a permanent structural shift in the global economy – and unprecedented ‘new’ demand for iron ore, copper, coal, platinum group metals and other commodities that a Group like ours produces.

And that brings me on to what I’ll call the geological challenge. Or, to put it another way, where are we going to find the minerals to fuel this continuing upsurge in the developing world?

Well, it entails putting a lot of people on the ground – and even some in the air – conducting our aerial-reconnaissance programs! Right now, Anglo American has approaching 600 geoscientists scattered across the globe, while we are currently exploring in 25 countries, from Alaska to Australia and from Chile to China.
This year, on a Group-wide basis, we will spend around 290 million dollars on exploration, with some 64 million dollars of it allocated to Africa.

Of course, being in the business of exploiting finite natural resources, centuries of extraction have meant that many big, long-life, high-grade, easy-to-get-to mineral deposits have already been and gone.

And the likelihood of finding a major series of deposits in one area, which could dominate global output in the way that this country’s Kimberley, the Witwatersrand or the Bushveld Complex did in the case of diamonds, gold and PGMs respectively, is becoming increasingly difficult.

Nevertheless, within the past 40 years, there have been a number of single-deposit discoveries of such a scale that they have had a profound effect on their respective industries or countries in which they have been found.

Each of us here, no doubt, has our own list – but, off the top of my head, I can think of La Escondida, Grasberg and Collahuasi in copper; Voisey’s Bay in nickel; Cerrejón in coal; and Carajás and the Pilbara in iron ore.

The great change, of course, is that the ‘traditional’ mining countries are finding it ever more difficult to supply the world’s burgeoning needs for metals and minerals.

That has necessitated a shift to ‘new frontier’ territories – which got under way at the end of the 1980s when exploration by majors and juniors alike started to fan out across the world following the collapse of communism and the re-opening to exploration of a number of African and Asian countries.

Mineral resources are now being sought in harsh climates, forbidding terrain, with difficult geology and often accompanied by modest ore grades.

But such regions also hold out the prospect of great opportunity for mining companies – who, as history shows, can be important development actors through their ability to mobilize know-how and resources.

Politically, however, this capability has to be attuned to countries' developmental aspirations – and the best way forward to turn to account a country's natural resources will be, in many cases, through seeking to build a series of partnerships between mining companies and the many stakeholders involved.

At the national level, our own Group, exemplifying our partner of choice idea, has signed a Memorandum with China Development Bank, and we both hope, and we expect, that this strategic alliance will lead eventually to some mining projects in Africa and China.

Also, as evidence of our more assertive approach in Africa, through our subsidiary Kumba Iron Ore, we are exploring in a new country, Guinea, and are working closely with the government to extend our iron ore asset base there.

Of course, for those of us who represent Western extractive businesses, the 'geopolitical distribution' of mineral resources is particularly challenging.

In this continuing commodities boom we are having to accommodate governments that are re-assessing the value of their mineral endowment, and how they can extract the most benefit from these assets. These governments are becoming ever more protectionist. And it is by no means only Russia that is taking that position!

Simultaneously, this inward-looking, protectionist stance of countries' natural wealth is being accompanied by an outward thrust on the part of countries such as China, Russia, the Gulf states and Singapore – to acquire new assets abroad.

When people ask me on my thoughts on topics like the consolidation in the mining industry, I sometimes have to remind them that the 'usual suspects' are not the only players in the game today. The emergence of the sovereign wealth funds could, potentially, change the Rules of the Game substantially. Although such funds have been around for quite some years, and have generally been content with being largely passive investors, they represent powerful new or potential entrants to the mining industry.

These funds often complement national champions like China's Chinalco and have huge state capital behind them – and they are increasingly fanning out from their domestic base and are steadily building up significant stakes in the world metals and minerals business.

Turning to the question of satisfying the ongoing demand for commodities, there is the ongoing issue of how this is being constrained by a global skills shortage and competition for skills that have reached serious proportions. Within our own Group, we are trying to address the intense competition in the mining business for the limited pool of skilled labour by actively recruiting from outside the industry.

Fortunately, we are seeing graduates becoming disenchanted by the formerly attractive financial services and IT sectors and we are getting a spurt of applications these days to join our business, many from people who previously would never have imagined or considered a career in mining. Headhunters, for example, are seeing Anglo American as a company of change; one that provides great opportunities on a global basis; and one that encourages its employees to think out of the box. And we are steadily bringing women into the heart of the business at Anglo American: here in South Africa, where we

employ the greatest numbers, women now make up almost one in five of our senior management.

In respect of geologists – well, experienced ones are still in rather short supply following the knock-on effect of so many geologists with at least a few years' experience, along with geophysicists and geochemists, leaving the profession during the last 'bust' period of 1997-2001.

I would now like to say something about the importance of achieving stakeholder buy-in over a wide front.

Managing the impact mining has at a local level, and ensuring that it is strongly positive and sustainable, continues to be one of the great challenges faced by any mining company.

I think there will always be lively debate, for instance, between mining companies and stakeholders as to what constitutes an equitable stake in and share of the costs of providing infrastructure when a mining company is planning a new mine or an expansion of an existing one.
I'm sure many of us in the mining industry – though we may be reluctant to admit it – would like to get away with doing as little as possible. On the other hand, there is today a widespread expectation that developing a certain minimum level of infrastructure – whether it is housing, whether it is roads, whether it is railways, the provision of electricity, water and sanitation, comes with the territory, so that affected communities have a brighter and more enduring future following a mine's inevitable closure.

In Anglo American, we have come to realize that we can only stretch our contribution to the fullest if we are able to reach some kind of broad consensus amongst our various stakeholders. In addition, the days when natural-resource companies in foreign countries had workforces dominated by expatriates, are well and truly over.
We can't do everything on our own, even if we want to, and have the resources to do so. The reality is that we have to form partnerships if we are to win over hearts and minds. Therefore, we are putting so much effort into developing sustainable partnerships – whether they be with governments, with communities, with suppliers, other resource companies, aid agencies or NGOs.

If we can't find win-win solutions and approaches with governments and local communities, we will simply not be successful – and we will not invest.

That is why I am so encouraged by the results of two recent votes whereby the people on the ground – those who would be the most directly affected by any future mining development – decided in favour of proceeding to the next phase of the proposed mining projects at Michiquillay in Peru and at Pebble in Alaska. In these two cases, we earned the trust of local communities by working to understand each other, our views, expectations and approaches.

Interestingly, Michiquillay lies in a water-scarce region, whereas at Pebble there is water in abundance and a key aspect to advancing the permitting process is how well we are able to protect the valuable fisheries of the Bristol Bay region.

And this leads me to what is perhaps the most critical issue in the sustainable development arena: that of water. In southern Africa, South America and Australia, Anglo American has operations in extremely arid areas, where there is inevitably competition with communities and other industries over this vital resource. Increasingly, we must compete for water resources and account for the full social and environmental costs.

Our Group has ongoing programs to ensure that we use, and we measure, water wisely and efficiently – exemplified by our working with BHP Billiton in a public-private 300 million rand (40 billion dollars) partnership at a water plant on the Witbank coalfield here in South Africa.

Here, millions of litres of water from underground coal mines are being converted into clean drinking water for the communities around our two companies' coal operations. When fully operational, this project will meet some 20 per cent of the area's daily water requirements.

Meanwhile, in Chile, the expansion at our Los Bronces copper mine will reduce the use of fresh water by 40% per tonne of copper produced.

Over the border at our Quellaveco copper project in southern Peru, an Anglo American team has been doing demonstration work along with the local authorities in the field of drip irrigation. One farmer now uses only 20 per cent of the water he did previously, while the 'value-add' he has obtained through the upgrading of his crops will pay for his drip-irrigation system within a year's time.
Finally, I am sure that you are expecting me to say a few words on energy – which, of course, is inextricably connected to the sustainable development agenda.

Providing sufficient clean energy to power the world's energy requirements well into the future will be one of the major challenges for the natural-resource industry.

In the 15 years between 2005 and 2020, around 40 per cent of all power-generation capacity will be replaced or built for the first time. This burgeoning demand for power, principally from the developing world, means that everything will need to be considered in the energy mix.

It will require appropriate policies and economic instruments to promote energy efficiency and to incentivise clean fossil fuel, nuclear and renewable technologies.

The good news is that today we have more types of energy sources than ever that we can harness – not only the traditional coal, oil and gas, but nuclear, various forms of renewables such as solar and wind power, biofuels and the beginnings of the use of hydrogen as a carrier of energy.

The bad news is that we don't know with any real certainty which of the newer technologies is going to be successful in terms of commercial viability. And it is unlikely that a single 'silver bullet' can be relied on to deliver a large proportion of the additional energy required going forward.
Which brings me to what Anglo American is doing in the energy field…

In our Group, we have started to improve our energy efficiency by 15% over the decade

2004-2014, with the twin aim of achieving a 10% reduction in the amount of carbon produced per unit of output. Everything from simple things, like lighting in buildings being switched off automatically and low-energy light bulbs replacing traditional ones, to using electricity instead of compressed air or diesel in rock drills, and we are experimenting with the use of biofuels in our mine-vehicle fleets.

In Australia, Anglo Coal has been capturing methane gas from underground workings and selling it to a power station to generate electricity, as well as to Queensland State Gas's pipeline grid.
This project has achieved greenhouse gas savings equivalent to taking 375,000 cars off the road. And we have just launched another project of similar proportions.

Here in South Africa, we are committed to working with Eskom to find a way through this critical supply situation that is likely to be with us until around 2015. Just today, we announced the signing of a Memorandum of Understanding with Eskom which will support our commitment to one another to examine the power-supply options together. We are committed to working with them to examine supply options and to finding solutions to support the country's national energy needs.

We are making available our top technical expertise and management time – while Ras Myburgh, who headed Kumba Iron Ore, has been seconded to Eskom to oversee the utility's long-term sourcing strategy for its power stations, and Bobby Godsell, who was part of our Group for over 30 years, has now become Eskom's chairman.

With fossil fuels likely to bear the brunt of generating most of the world's energy for decades to come, it is essential that they, and especially coal, become cleaner. That is why Anglo American has become one of the mining industry's frontrunners in examining the downstream options for making coal a more environmentally acceptable product.

Currently, we are engaged in research with various partners, including a major international name like Shell, on projects related to integrated carbon capture and storage or CCS, the feasibility of converting coal-to-liquids and in taking forward Clean Development Mechanisms.

I hope this evening I have been able to provide a degree of perspective on some of the main challenges facing the global mining industry, and our own Group, Anglo American. In summary, they amount to a daunting set of challenges. But, then, I see the upside as being limitless. This is an exciting time for the industry – and I think the best is yet to come.

But we will only get there if we can keep attracting, and retaining, that special breed of person called geologists…And you must… Keep discovering!

Thank you