Diamonds & Minerals

Financial performance

	2013 US$ million	2012 US$ million
Revenue	4,193	4,056
Operating cash flow	909	267
Underlying earnings	350	149
Underlying earnings excluding Simandou	393	411
Capital expenditure	1,009	1,814
Net operating assets	7,900	8,061

Strategy and strategic priorities

The Diamonds & Minerals product group has an attractive portfolio of businesses that connect customers and consumers all around the world with products that enhance the quality of life. Demand growth for diamonds and industrial minerals typically follows peak requirements for commodities such as iron ore and copper as mid-to-late economic development cycle minerals. The group's strategy is focused on operating safe, low-cost, demand-led businesses. Through its integrated marketing strategies, the group can create and grow global markets for its products that produce value for Rio Tinto and its shareholders.

The product group's strategy is focused on:

- Creating demand-led, integrated operations that can respond quickly to the changing external environment.
- Generating and exploiting proprietary market insights.
- Growing global markets through business-focused research and market development.
- Strengthening its position in traditional segments and entering attractive new markets.
- Improving operating performance by cutting costs, driving productivity and delayering the organisation.

Safety

Diamonds & Minerals continues to focus on fostering a culture of accountability and awareness among employees and improving contractor safety in our pursuit of zero harm. The product group's all injury frequency rate (AIFR) increased to 0.75 in 2013 from 0.57 in 2012. Regrettably, there was one fatality in November 2013 at Richards Bay Minerals in South Africa.

The product group faces some unique challenges in health and safety. The workforce spans multiple nationalities, ethnicities, languages and cultures in developing countries. In response, management is employing innovative strategies and visible safety leadership to train the workforce.

Diamonds & Minerals is focused on eliminating fatality risks by placing an emphasis on critical controls and robust process safety.

Greenhouse gas emissions

Overall greenhouse gas (GHG) emissions intensity increased slightly in 2013. This was largely due to lower production at Rio Tinto Iron & Titanium (RTIT); the reduction in capacity utilisation of its smelters led to an increase in GHG emissions per tonne of product – reflected in a four per cent increase in emissions intensity for RTIT compared to 2012. GHG emissions per tonne of product were marginally higher at Rio Tinto Minerals, but improved across Rio Tinto Diamonds operations. The product group continues to invest in the implementation of more efficient equipment and technology, such as the wind farm at Diavik.

Review of operations

The group's underlying earnings of US$350 million include evaluation costs in respect of Simandou of US$43 million. Excluding Simandou expenditure, underlying earnings of US$393 million were four per cent lower than in 2012. Prices were lower for titanium dioxide feedstocks, zircon, metallics and borates, while titanium dioxide sales volumes were also lower. This was offset by higher diamond prices, favourable exchange rate movements and lower evaluation study costs. The acquisition of BHP Billiton's interests in Richards Bay Minerals in September 2012 also contributed an increase in earnings.

On a like-for-like basis, cash operating costs of production in 2013 were US$358 million lower than in 2012, reflecting the impact of targeted cost reduction initiatives and favourable exchange rate movements. A large number of initiatives were launched to remove significant structural costs from the business, including delayering the organisation, driving productivity initiatives and removing costs. In parallel, temporary plant closures in response to market conditions generated significant savings in variable costs during the year.

Rio Tinto Diamonds (RTD)

RTD is a leading producer of rough diamonds with a product portfolio that provides a presence in all major markets. Rio Tinto's diamonds assets comprise the Argyle Diamond Mine in Australia (Rio Tinto: 100 per cent), the Diavik Diamond Mine in Canada (60 per cent), Murowa Diamonds in Zimbabwe (78 per cent) and the Bunder diamond project in India (100 per cent). RTD sells its share of production through its centralised marketing office in Belgium and has a niche cutting and polishing factory in Australia for its high-end pink diamonds from the Argyle mine, and sells them to an international customer base.

In June 2013, Rio Tinto announced its intention to retain its diamonds businesses after concluding a strategic review which considered a range of options, including potential divestment. The medium to long-term market fundamentals for diamonds remain robust, and the high quality diamonds business is well positioned to capitalise on the positive market outlook.

RTD produced 16.0 million carats in 2013, a 22 per cent increase from 2012 that reflected higher tonnes processed and higher grades at Argyle following the commissioning of the underground mine in April 2013. Revenue in 2013 was 15 per cent higher than in 2012, reflecting higher volumes and increased prices. RTD reported earnings of US$53 million in 2013, compared to a loss of US$25 million in 2012, reflecting higher revenues and cost savings.

The ramp-up of the Argyle underground mine to full operation is on schedule to be completed by 2015, extending the life of mine until at least 2020.

Production from Diavik's underground mine commenced in early 2010 in parallel with open pit operations. Diavik has now completed the transition to a fully underground mine, with all three pipes now at full production.

Rio Tinto Iron & Titanium (RTIT)

RTIT is the largest producer of high-grade titanium dioxide feedstocks. It mines ilmenite at its wholly-owned Rio Tinto Fer et Titane (RTFT) operation in Canada; its managed operation Richards Bay Minerals (RBM) in South Africa (Rio Tinto: 74 per cent); and its QIT Madagascar Minerals (QMM) operation (80 per cent). RTIT produces high-grade titanium dioxide feedstocks at its world-class metallurgical complexes at RTFT and RBM as well as valuable co-products including high purity iron, steel, metal powders, zircon and rutile.

In 2013, titanium dioxide feedstock production increased by two per cent year-on-year to 1.6 million tonnes (Rio Tinto share). This includes an increase in attributable volumes at RBM resulting from Rio Tinto doubling its stake in September 2012. Due to challenging market conditions for high grade titanium dioxide feedstock, RTFT brought forward a planned shutdown of one of nine furnaces in Canada and deferred the rebuild until market conditions improve. The RTFT upgraded slag (UGS) production was also taken offline for part of the year, together with zircon and rutile production at RBM.

RTIT's revenues increased by one per cent as the impact of the RBM transaction was largely offset by lower prices for titanium dioxide feedstocks, zircon and metallics and lower sales volumes of titanium dioxide feedstocks. Earnings fell by 35 per cent to US$264 million, despite the benefit of the RBM transaction, which increased Rio Tinto's share of earnings with effect from September 2012.

Rio Tinto Minerals (RTM)
RTM (Rio Tinto: 100 per cent) supplies over 30 per cent of the world's refined borates from its world-class deposit in Boron, California. RTM also has borates refineries and shipping facilities in China, France, Malaysia, the Netherlands, Spain and the US.

Borates production of 495,000 tonnes boric oxide equivalent was seven per cent higher than in 2012, following cuts to production in 2012 in response to market conditions. Global demand for RTM refined borates improved slightly with revenue remaining flat on lower prices. Earnings of US$131 million were six per cent lower than 2012 due to the decrease in product prices.

Rio Tinto Minerals is delivering the modified direct dissolving of kernite (MDDK) project, which allows for more efficient orebody utilisation. The project is on track for completion in 2014.

Dampier Salt (DSL)
Dampier Salt Limited, the world's largest solar salt exporter, produces industrial salt by solar evaporation of seawater at Dampier and Port Hedland, and from underground brine at Lake MacLeod, all in Western Australia. Salt is sold principally to the base chemical industry markets in Asia. Salt production of 6.7 million tonnes (Rio Tinto share) was two per cent lower than 2012. During 2013, gypsum mining operations and sales were resumed.

Development projects

In 2011, Diamonds & Minerals re-entered the potash business through an exploration joint venture with North Atlantic Potash Inc., a subsidiary of JSC Acron. Acron is a world leader in fertiliser production and holds multiple potash exploration permits in Saskatchewan, Canada. Drilling results indicate encouraging potash grade and thickness. Higher nutritional standards, population growth and limited arable land make potash a critical factor in maintaining global food security, and a natural complement to RTM's existing borate fertiliser business.

Progress continued at the group's Jadar lithium-borate deposit in Serbia. A pilot plant for processing Jadar material was commissioned at Boron and core samples processed at the plant yielded encouraging and positive results. If developed, the deposit has the potential to supply a significant proportion of global lithium demand. Lithium carbonate's fastest-growing application is in batteries that provide clean power to industrial systems and electric and hybrid vehicles.

In January 2013, against a backdrop of weaker market conditions for its products and the need to manage and reduce its costs, RTIT reviewed the economic viability of the TiO4 project and cancelled prefeasibility studies for the project in Canada and Madagascar. The Zulti South mine expansion at RBM, the mineral sands exploration programme in Mozambique and other brownfield studies at the group's operations continue.

The Bunder diamond project is progressing its prefeasibility study, which began in July 2010. These studies have confirmed the economic potential of the orebody and work is under way to define the best development option. Mine plan approval was received during the year and environmental approvals are under way.

The Simandou iron ore project in Guinea is one of the largest-known undeveloped high-grade iron ore resources in the world. The concession will enable the development of the largest mine and infrastructure project ever undertaken in Africa. This will include the progressive development of a 100 million tonne per annum mine, a 650-kilometre trans-Guinean railway and a new deep-water port.

The project is adopting a "stage gate" approach for investment to be made in line with Government of Guinea approvals and funding processes.

In February 2013, the Government of Guinea approved the Social and Environmental Impact Assessment (SEIA) conducted on the Simandou project. The SEIA is the result of a consultation programme involving more than 10,000 members of the local communities and ensures the project is developed in a way that maximises long-term benefits for the people of Guinea and minimises impact on the communities and the environment. Also during the year, the project sponsors – the Government of Guinea, Rio Tinto, Chinalco and the International Finance Corporation – signed a letter of mutual intent setting out the key principles that will serve as the basis of the Investment Framework that the partners intend to finalise in the first half of 2014. The Investment Framework is instrumental in governing the Simandou project successfully, and in setting a stable and durable operating model and environment for all partners and investors.

In parallel, the partners are seeking funding for the project infrastructure. This may include outsourcing to a third-party consortium in a strategy to embed a broad partnership approach to developing the multi-user infrastructure, and to reduce the risk and capital commitments of the Simandou project sponsors.

Outlook

The group serves a range of different industries, but are linked through their track record of creating and defining new and profitable markets for their products. Demand softened in these markets in 2013 in response to broader economic trends, and the outlook for 2014 remains uncertain, although there is some sense that developed economies are on the path to a more robust recovery, which is a driver for industrial mineral demand. However, the medium to long-term outlook continues to be positive across all products as urbanisation and rising standards of living drive higher levels of demand.

RTM will continue to seek to capture profitable growth in emerging economies and maintain its position in its established markets. Ongoing supply chain improvements will facilitate speed and flexibility in shifting supply to promising sectors and regions. Demand for borates is expected to remain stable in the near term, and the long-term industry fundamentals remain attractive. RTM will focus on increasing refined borates capacity to meet higher-than-GDP demand growth while achieving world-class safety performance and improving its cost position.

Demand for titanium dioxide feedstock is expected to continue to grow in the medium to long term, in line with improving global economic conditions, urbanisation and demand growth in emerging markets supported by rising per capita incomes. In response to weak demand and excess inventory in the feedstock supply chain, and in order to reduce operating costs and inventory, RTIT has taken action at a number of its operations, including temporary closures of the UGS plant and deferral of a planned furnace rebuild at RTFT.

Pigment inventory has returned to historical levels and it is expected that feedstock inventories within the supply chain will return to historical levels over the course of 2014.

The medium to long-term fundamentals for the diamond industry are positive and expected to support sustainable future price growth. The global mineral reserve base is steadily declining, compounded by limited exploration investment and success, and expected reductions in supply over the medium to longer term. Demand in India and China is expected to continue to grow, and to represent nearly 50 per cent of global diamond consumption by 2020. Demand in mature markets is expected to continue to grow in line with GDP.