

Global mine* bulletin

February 2008

PRICEWATERHOUSECOOPERS 



It's amazing how much can happen in a short time. Since the last Global Mine* bulletin in November, the Western world has seemingly caught a cold, causing tremendous volatility on global stock markets which has also impacted mining stocks. Whilst all this has been going on, BHP Billiton has bid for Rio Tinto and, more recently, rumours have surfaced of a transaction between Vale and Xstrata.

The impact that the sub prime crisis will have on the mining industry is considered in our first story. Some miners have suggested that the impact will not be huge as the China juggernaut will not be heavily impacted. If it were as simple as this, why have mining stocks suffered on stock markets?

In our regular "performance improvement corner", we extend the discussion from our previous edition on management reporting.

During recent months we have welcomed GEM to PwC. GEM is an Australian-based consultancy focussing on strategy, operating effectiveness and profit maximisation in the mining industry. A brief introduction to the services of GEM and their clients is detailed in this edition.

...continued

| Contents |

Credit Crunch
Performance
Improvement Corner
GEM
Africa

Junior Mine*
2007 Global Gold Price
Survey Results
Mining Compensation Survey
Contacts

| Next |

One of the most interesting aspects of today's mining world is that perception of country political risk has rapidly changed. With this in mind, one of my African colleagues who has been deeply involved in the Democratic Republic of Congo and Zambia has shared some of his thoughts.

Finally we briefly touch on recent PwC mining publications, *Junior Mine** – an analysis of the performance of AIM listed companies, and the results of our annual Gold price survey. We also discuss the upcoming Mining Compensation Survey, which we have undertaken for 15 years in conjunction with Coopers Consulting. The 2008 survey is about to get underway.

I trust you find this newsletter of interest. We welcome any feedback on this issue or thoughts for future items to be covered.



Tim Goldsmith
Global Mining Leader
PricewaterhouseCoopers



Credit Crunch

The impact of the credit crunch on the mining industry

In mid 2007 the world first learned of the sub prime crisis in the US which led to significant write downs by some of the world's biggest banks. The sub prime issues led to a so-called contagion effect such that all financings became more difficult.

The mining industry has pointed to the fact that its recent success has been driven by China and other countries that were unlikely to be greatly impacted by a slow down in the US. Whilst this may be true, when looking at the facts in more detail, some issues arise for many mining companies, such as:

- Funding is much harder to obtain today than it was a year ago. Mining companies needing to raise funds for development may find it much harder to achieve their goals than previously thought. It is many of the mid-cap miners with an advanced, unfunded project that were hardest hit in the recent stock market turmoil. In essence, the market is questioning whether they will be able to fund these projects. This may force these companies to get financial support from other sources – which may result in friendly merger and acquisition transactions
- The funds that are available are likely to be far more expensive than previously expected. This can change the dynamics of the project economics and may make some uneconomic
- The reduction in stock market value may make many companies far more vulnerable to take overs. This is undoubtedly a time to ensure the defence strategy is up to date. Whilst the ability for companies to have free cash may be diminished in the western world, this may provide a great opportunity for Chinese, Indian and Russian companies that are cash rich to make their mark



- The increase in cost of both debt and equity may mean an increase in the weighted average cost of capital for all miners. This may impact their optimal capital structure and may again leave some companies exposed. Indeed, those companies that maintained the so-called “lazy balance sheet” may see opportunities abound to use those excess funds. We may also see a reduction of funds going back to shareholders, as companies will need to think twice about future funding requirements and manage their cash in a more careful fashion
- Whilst commodities such as iron ore may not see much impact on demand, as it is primarily used in China to expand their infrastructure, this may not be the same story for all commodities. Take, for example, copper, and its usage in electronics. The demand for those electronics may be impacted if a recession bites in the US. Thus each specific commodity may see a different impact on its global demand.

In concluding, these vignettes highlight that the impacts can be quite far reaching and are likely to be unique to each mining company. We have little doubt that it will lead to some projects being curtailed which is where the good news for miners comes in relation to this otherwise nasty situation. The challenge of funding will keep a lid on supply which should lead to the continuation of the mining boom for even longer. Long live the boom!

For more information contact [Chris Dodd](#) or [Tim Goldsmith](#).



Performance Improvement Corner

Management reporting

- Are you concerned about missing targets?
- Are there too many surprises?
- Is there a perception of poor performance?
- Do you need to keep “digging deeper” to test reality?
- Does month-end involve extended “data validation”?

Current performance measures and the reporting of those measures may not be telling the whole story for the business and operations, and considerable value may be left unrealised.

We have seen many instances where the reporting is more along the lines of a “data dump” with executive level reporting containing high volumes of detail. In one instance, the directive was “make the reports data rich” with senior management taking on the task of refining the data into effective and relevant information, ... and generating “ad hoc” requests for clarification.

Also, current practices are often focused within traditional “responsibility silos” and, then, locked into “monthly time silos”. This tends to further restrict the interpretation of the performance information.

Consequently, the reporting may well be concentrating on historical performance, within specific operational areas or silos, and not identifying critical future issues or trends easily.

Consistent symptoms

There are some characteristics which alert us to management reporting problems.

- The expectations and requirements of senior management, at the mine or, more usually, at corporate and/or parent company level, are not defined and promulgated to those responsible for reporting content.
- There is a huge amount of competent and reliable data, but unfortunately a lot of the value-adding information is not reported.
- There are “lots of surprises” for management at the mine operations and corporate levels.
- The volume of ad hoc reports and requests is exceptionally high, often, much greater than 30% of the total reporting load.
- The volume of reports is continually growing, usually as the result of the ad hoc reports and requests being added to the routine report load.
- There is a significant level of “last minute” or “urgent” requests for information, before executive meetings, following the review of monthly and quarterly reports and when senior management expectations are not met – back to the “surprises”.



- The End-of-Month process takes considerable time (>5 days) to agree performance levels for the past month.
- “Huge” quantities of data are reported – the “data dump” technique, which arises from not understanding the expectations and requirements of senior management.
- There is a lack of agreed definitions for measures and no consistent approach to performance measurement across different sites and operations.

What constitutes good practice performance reporting?

We believe that good practice management reporting has six key elements, which need to be addressed methodically and supported by consistent management behaviour to ensure that they are sustainable.

Good practice is more about behaviour and commitment than addressing structural, systems and data integrity issues. These other issues may have a role to play at some stage but are often not the root cause of poor management reporting quality, techniques or processes.

Six key elements

i. Balance

- Strike the 'right' balance of strategic and tactical measures
 - » **Strategic** – forward looking, aligned to strategic objectives, results focused
 - » **Tactical** – actionable, provide lead indicators of performance, focused on inputs, processes and outputs

ii. Accuracy

- Reports are valid, reliable and at the appropriate level of detail

- Measurement processes are consistent and repeatable
- Data sources are reliable and represent underlying business performance

iii. Commerciality

- Not onerous – use existing measurement and reporting frameworks
- Automated measurement and reporting processes

iv. Contextual

- Evaluations of performance take into account random/seasonal variation

- Provide visibility of competitive environment (eg market share)
- Comparisons (budget/forecast) overlay seasonal variation
- Where appropriate, display upper/lower control limits

v. Relevance and Timing

- Reflect underlying drivers of business performance
- Measures need to reflect the value drivers of a business
- Represent the reality of the business

vi. Utility

- Enable informed decisions to be taken on an immediate basis
- Easily digestible, easy to read and understand
- Clear, concise, accepted definitions



Leading to...

- Greater probability of taking the 'right' decision to improve performance and hence achieve or exceed desired business outcomes
- Increased visibility of business drivers/value drivers
- Minimised cost of performance measurement and reporting
- Executives are presented with information that aids informed decision making and measurable actions

For further details contact [Rex Honey](#) or [Robert Radley](#).

GEM



GEM Consulting was acquired by PricewaterhouseCoopers in November 2007. GEM was founded in August 1996 with a unique business model, and currently operates across two overlapping disciplines:

- **Management Consulting**, including strategy, performance improvement and organisational effectiveness work for large, mid-sized and small corporations.
- **Corporate Advice**, including traditional investment banking advisory work, with a strong capital raising, initial public offering (IPO), asset sale and deal structuring orientation.

The combination of Management Consulting and Corporate Advice capabilities enables clients to achieve high growth, improve profitability and build a strong and sustained competitive advantage. They have worked extensively in the mining industry and their client list is impressive and includes BHP Billiton and Rio Tinto.

The GEM team currently has three partners, four directors and 15 staff, based in Perth, Australia. The consulting team has extensive experience in all aspects of strategy, performance improvement and organisation work from time spent with firms such as Boston Consulting Group, Bain & Company, Arthur D Little and Arthur Andersen. Staff have been educated (undergraduate, post-graduate and executive) at internationally recognised universities including Harvard, Cornell, Wharton, London Business School and several leading Australian Universities.

For further details on GEM contact [Robert Radley](#).

Africa

Out of South Africa

Whilst the resources of South Africa are well known and exploited, there is increasing interest in the mineral reserves of other parts of the African continent. As a case study, consider copper and cobalt production in the Democratic Republic of Congo (“DRC”) and Zambia.

Of considerable advantage to both countries is the fact that many of the areas currently being considered/mined are brown, rather than green, field sites. Exploration and exploitation undertaken previously have shown large reserves that have not been extracted since nationalisation of the respective mining industries. Production in Zambia showed almost continual decline from a peak of approximately 700,000 tonnes of copper per annum in the late 1960s until privatisation of the Zambian Consolidated Copper Mines (ZCCM) in the late 1990s. The situation in the DRC was even more severe with a decline of production to just 20,000 tonnes per annum under the state-run Gécamines. The mining maps produced by the early geologists contain a wealth of detail, much of it still unexploited, and have been used as a starting point for the entry of many companies. Another advantage of the prior exploitation is the tailing dumps which hold copper and cobalt of good grade (at over 1.5% for some copper dumps) that is extractable at extremely low cost with modern technology.

The DRC is perhaps receiving the most international coverage and interest at present. Its copper and cobalt minerals are held in Katanga province where the country shares with Zambia the Central African Copperbelt, said to hold up to 10% of the world’s copper and over 45% of the world’s cobalt reserves. Having recently enjoyed its first democratic elections after more than forty years of political manoeuvring and wars, the country is now attracting huge foreign attention and a massive influx of foreign mining companies. The recently announced merger of Nikanor and Katanga Mining will have a combined market capitalisation of US\$3 billion and has the potential to become Africa’s largest copper producer and the world’s largest cobalt producer by 2011. The merged company intends to develop a unified mine complex with output of approximately 400,000 tonnes of copper and 40,000 tonnes of cobalt per annum. Other major producing companies in the country include Anvil Mining and First Quantum. Anvil sees a doubling of production to over 100,000 tonnes of copper per annum by 2010. First Quantum, through its Frontier operation, is estimated to have a life of 19 years with an average of 75,000 tonnes of copper concentrate per annum.

Exploitation of the other side of the Copperbelt in Zambia is at a more developed stage in an environment of continuing political stability. The major mining operations of the country are currently undertaken by Konkola Copper Mines (KCM) and Mopani Copper Mines (MCM), whose major shareholders are Vedanta Resources and Glencore respectively, both with a production capacity of over 200,000 tonnes of copper per annum.

Mining in Africa is not without its problems and companies operating on the continent can experience a level of uncertainty and 'excitement' that generally does not exist in more developed countries. Infrastructure can be extremely poor, with difficult and expensive transportation eradicating much of the profit gained on the high quality ore. Certain countries still experience both political uncertainty (Kenya being a recent example) and fluctuating security for personnel. There have been cases of expropriation of equipment and vehicles for state (i.e., military) purposes and accusations of corruption. A further disincentive to entry has been recent indications by certain governments that they may revisit mining concessions with a view to improving terms for the host nations. Perhaps most difficult of all however, is the inconsistent application of tax and mining regimes and the constant harassment by various state bodies who appear to work against, rather than with, each other.



Nevertheless, in spite of these risks, Africa remains an option that is increasingly being considered by mining companies seeking high quality mineral deposits.

For more information about Africa contact [Robert Dagge](#) or [Hugh Cameron](#).

Junior Mine*

PricewaterhouseCoopers' third annual report on the UK listed junior mining industry – *junior mine** provides an insight into the aggregated performance of the junior mining industry, as represented by 50 of the largest mining companies on the Alternative Investment Market (“AIM”).

Using the combined balance sheets, income and cash flow statements of these companies we provide analysis and present an assessment of the industry's financial position based on financial statements released throughout 2007. We report separately for production companies and those involved only in exploration and development.

The mining companies included in the report represent over 80% of the AIM mining industry by market capitalisation, and so *junior mine** provides a good indicator of the health of the UK's junior mining industry.

Higher commodity prices, combined with the successful commissioning of new mines and expansion of existing mines, meant that revenue increased by 54% and also resulted in a significant increase in the profitability of those with producing mines. These companies reported a pre-tax profit of US\$740 million, a massive improvement from the prior year's US\$25 million pre-tax profit.

Dividends rose by 163% to US\$52 million, although this increase is modest relative to the improvement in the profitability of the producers. Based on market capitalisation this level of payout is equivalent to a dividend yield of just 0.4%.

With confidence in the industry so high, the junior mining sector was able to raise record amounts from financing activities, with the net cash inflow up 107% to US\$2,718 million. The extra funding stimulated a significant increase in the amount spent on investing activities, which rose by 126% to US\$2,448 million. This includes US\$1,910 million spent on property, plant & equipment (up from US\$812 million), with the remainder being spent mainly on exploration and purchases of intangible assets (e.g. mining licences). The challenge for the AIM mining sector will be to convert this expenditure into additional mineral reserves and/or production, bearing in mind that the aggregate value of the industry's property, plant & equipment (at US\$5,843 million) is about 1.4 times higher than its aggregate annual revenue.

For the second year in succession, the cash balances held to finance future expenditure increased significantly. The aggregate cash balance rose to US\$2,319 million during the year, an increase of US\$1,072 million (86%), and the closing balance is over half the aggregated amount spent on investing activities during 2006.

In summary, the outlook for the junior mining sector remains strong and there are encouraging signs that significant increases in expenditure over the last few years are feeding through into the discovery of additional resources and higher production levels. However, it is worth taking stock of some emerging trends and the current economic conditions and considering what impact this may have on the AIM mining sector and the results to be reported during 2008.

2007 saw the move of several of the AIM's most successful mining companies to the Main Board of the London stock exchange. Several mid cap IPO's went straight to the main board in a number of cases, despite not yet having reached commercial production, traditionally seen as a barrier to direct entry. The overall number of AIM junior mining company IPO's also decreased for the second year running. Combined with the impact of the credit crunch on the ability to secure project finance on attractive terms, companies at the early stage of the development cycle may find the current environment more challenging for bringing their projects online, irrespective of how commodity prices hold up. For those already in production, and particularly the gold sector, the good times look set to continue.

In such an environment AIM mining companies must continue to demonstrate to investors that they are spending their funds wisely and controlling costs effectively. With the strength of balance sheets an investor focus, thorough analysis of investment assets and strategies, liquidity profiles and financial risk management strategies is key. Additionally we continue to believe that an opportunity exists for many companies to capture more shareholder value by providing enhanced disclosures about the key drivers of value, such as exploration successes and/or failures, movements in resources and political risk.

For more information in relation to this document contact [Jason Burkitt](#) or [Ian Lawrence](#).

In the next few months, we should also see the release of AIM's sister publications, on Canadian and Australian listed mining companies. More details will be included in the next Global Mine* bulletin.

2007 Global Gold Price Survey Results

We recently published the results of our *2007 Global Gold Price Survey*. The survey was completed by 25 companies with a combined production of over 30 million ounces a year. It is with little surprise that these companies' gold price assumptions continue to rise, this year by US\$43 per ounce to US\$575 per ounce. This number remains significantly below the spot price and reflects conservatism by these companies in determining their accounting information.

For further information on the objectives or these results contact [Len Boggio](#).

Mining Compensation Survey

The process for the 2008 Mining Compensation Survey(s) prepared by Coopers Consulting and PwC is underway. The survey was answered by over 100 North American companies in 2007, with over 8,500 employees represented. It is acknowledged in North America as the most comprehensive survey of its kind.

In 2008 the survey is expanding to Australia and a new separate global expatriate compensation practices survey will be undertaken. There are also plans to consider Africa for future years.

For further information or to participate in the survey, contact [Lou Vujanich](#) of Coopers Consulting Ltd.

Contacts

For more information on this publication or how PricewaterhouseCoopers can assist you in managing value and reporting, please speak to your current PricewaterhouseCoopers contact or telephone/email the individual below who will put you in contact with the right person.

Visit our website: www.pwc.com/mining

Global

Tim Goldsmith – Melbourne

Telephone: +61 (3) 8603 2016

Email: tim.goldsmith@au.pwc.com

Canada

Paul Murphy – Toronto

Telephone: +1 (416) 941 8242

Email: paul.j.murphy@ca.pwc.com

China

Derrick Ryley – Beijing

Telephone: +86 (10) 6533 2207

Email: derrick.j.ryley@cn.pwc.com

Rita Li – Beijing

Telephone: +86 (10) 6533 2365

Email: rita.li@cn.pwc.com

India

Kameswara Rao - Hyderabad

Telephone: +91 (40) 2330 0750

Email: kameswara.rao@in.pwc.com

Latin America

Anthony Dawes – Santiago

Telephone: +56 (2) 940 0064

Email: anthony.dawes@cl.pwc.com

Russia and Central and Eastern Europe

John Gross – Moscow

Telephone: +7 (495) 967 6260

Email: john.c.gross@ru.pwc.com

South Africa

Hugh Cameron – Johannesburg

Telephone: +27 (11) 797 4292

Email: hugh.cameron@za.pwc.com

United Kingdom

Ross Hunter – London

Telephone: +44 (20) 7804 4326

Email: ross.hunter@uk.pwc.com

United States

Steve Ralbovsky – Phoenix

Telephone: +1 (602) 364 8193

Email: steve.ralbovsky@us.pwc.com