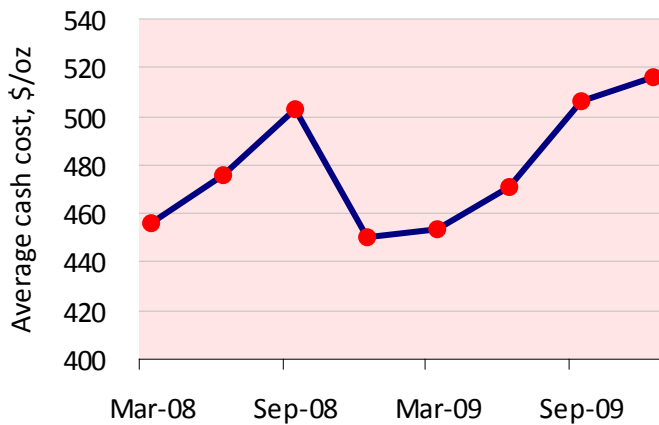


Gold Mine Cost Report – Q4 2009

May 2010

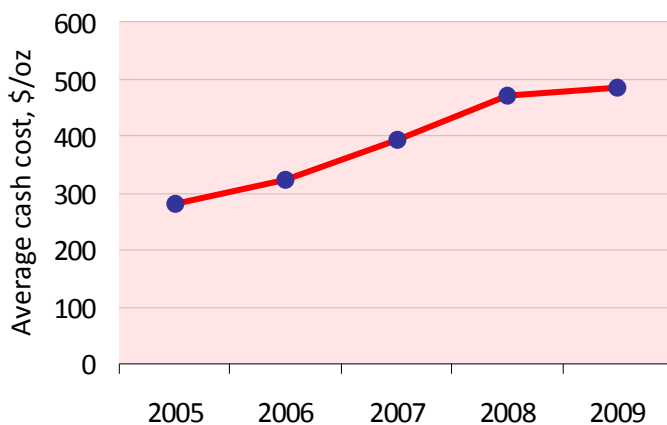
Fortis Bank Nederland

Average quarterly cash costs, Q1 2008 to Q4 2009, \$/oz



Q4 09 average gold cash cost \$516/oz, up \$9/oz compared with Q3 09.

Average annual cash costs, 2005 to 2009, \$/oz



2009 full year average cash cost \$485/oz, up 3% on 2008 average of \$470/oz, but up 73% compared with 2005.

About the report

The **Gold Mine Cost Report** is produced as part of a joint venture between Fortis Bank Nederland and VM Group in conjunction with Haliburton Mineral Services. It augments our other gold reports especially the Yellow Book and the Gold Hedging Report.

As a benchmark for comparing the fortunes of individual mining companies relative to each other, the cost curve is an important analytical tool for mine management and their shareholders as well as for the banks, equity brokers and investors.

Accounting and the reporting of production costs can vary from company to company and for this reason it is vital to compare like with like. This comparison requires not just in-depth analysis and attention to detail but an understanding of company accounts and accounting practices.

It is our intention to publish this quarterly **Gold Mine Cost Report** on an open access basis and as with all our work, we would welcome feedback and comments.

For further information or to be added to a direct email list, please contact info@vmgroup.co.uk

Jessica Cross, CEO, VM Group

Analysts

Ted Reeve, Haliburton Mineral Services

tel: +1 416 447 7524

Matthew Turner, VM Group

tel: +44 20 7569 5934

Contents

Q4 2009 cost roundup	4
Regional cost analysis	7
Methodology	9
About the authors.....	9
Disclaimer and copyright	10

Q4 2009 cost roundup

Average cash cost \$516/oz, up \$9/oz from Q3 2009 and 15% higher year-on-year

Gold mines produced gold at an average cash cost of \$516/oz¹ in Q4 09, the highest average cost seen in our data series, and \$9/oz higher than the previous high in Q3 09. Over the year costs rose 14.7% from \$450/oz in Q4 09.

The mining industry won't be too concerned however – the average price of gold in Q4 09 rose to \$1,100/oz, \$583/oz higher than the average cost of production, up from a difference of \$453/oz in Q3 09. It also is a major improvement on “profitability”² levels seen in previous years when comparatively, average costs were far lower.

Gold cash costs by year and quarter, \$/oz unless stated

	2005	2006	2007	2008	2009	Q1 08	Q2 08	Q3 08	Q4 08	Q1 09	Q2 09	Q3 09	Q4 09
Average cost	280	323	394	470	485	456	476	503	450	453	471	507	516
Average gold price	444	604	695	872	972	925	896	872	795	908	922	960	1,100
<i>Difference</i>	164	281	302	402	488	469	420	369	345	455	452	453	583
Cost at various positions on curve													
25%	223	255	307	390	394	342	374	398	344	338	355	382	382
Median -50%	277	311	385	460	476	447	443	493	437	435	467	495	495
75%	338	394	458	560	574	529	555	610	530	544	549	614	615
90%	402	448	556	667	685	688	694	704	644	643	684	720	738
Costed production (Moz)	43.4	43.1	42.3	42.7	43.8	9.9	10.4	11.0	11.4	10.4	10.7	11.1	11.6
Costed production (tonnes)	1,351	1,340	1,315	1,327	1,361	308	324	344	356	324	332	345	361

Source: VM Group/Haliburton Mineral Services. Note sums and differences might not match individual numbers due to rounding.

Our Gold Mine Cost Report Q4 09 surveys a range of some 232 gold mines (for the period Q4 09) for which we have obtained costs; together, the mines produced 11.6 Moz of gold. This was significantly higher than production in Q3 09 of 11.1 Moz, a similar seasonal increase as seen in Q4 08. Out of the 232 mines assessed in terms of gold production levels and costs, 228 were also included in Q3 09; of those 125 mines, or about 55% saw their costs increase quarter-on-quarter, while the balance had flat or falling costs.

For 2009 as a whole the average cash cost of mines was \$485/oz, up just \$15/oz, or 3.2%, from 2008's level but more than \$200/oz higher than in 2005.

¹ The average cost of mine was calculated as follows: each mine's cash cost is multiplied by its production. This is determined for all 232 mines, and then divided by the total production of 11.6 Moz. For Q4 09 this gives a higher figure for *average* cash costs, \$516/oz than the *median*, \$495/oz, as it has in every quarter since our data series begins in Q1 08, although there is no reason why this necessarily has to be the case.

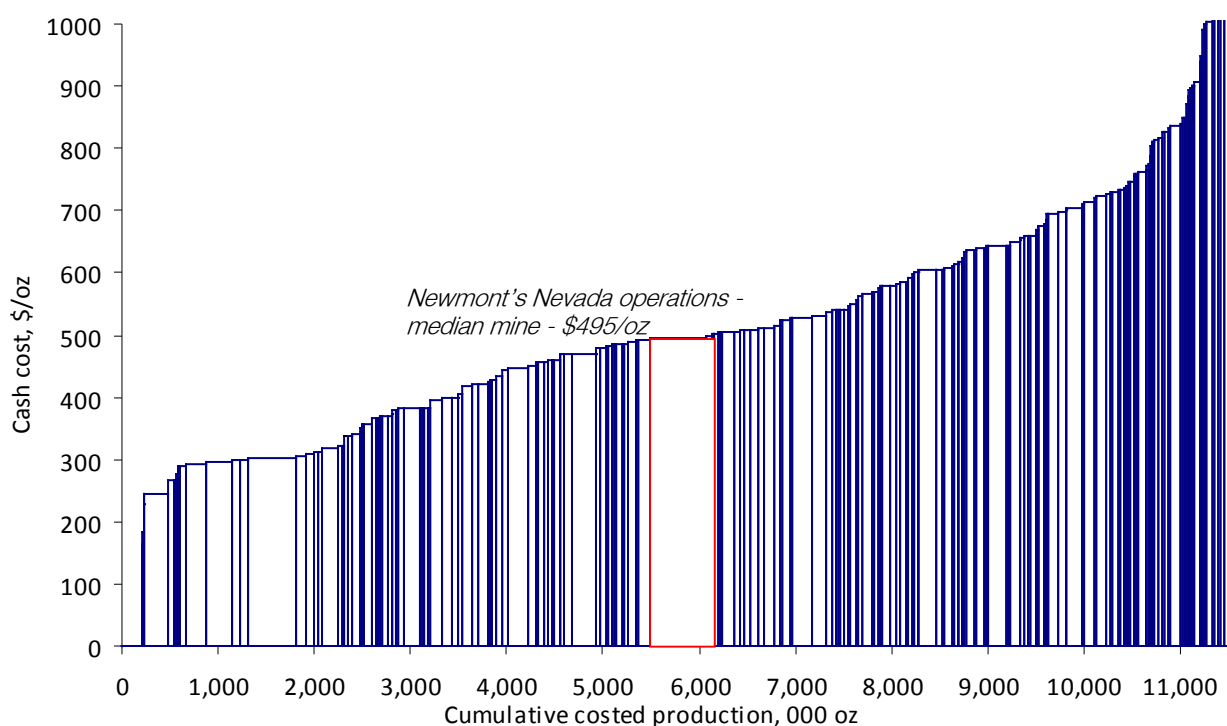
² In practice of course cash costs are not the only costs of a mine and profitability is determined by many other factors.

However, once again the gold price has more than outpaced this increase in cash costs, rising over this period by more than \$500/oz.

The “cost curve”

Costs can also be analysed on a distributional basis. The following chart shows the cost curve for Q4 09, with each mine in our database (232 of them) shown ranked in order of costs from low to high³. The width of the bar measures their output of gold (in 000s of ounces) and the height of the bar their cash cost per ounce. The average size of the mines in our database in Q2 09 was 49,963 oz, with the median mine producing just 32,000 oz of gold; these mine costs are indicated on the chart as barely more than a vertical blue line, although there are clearly some much larger mines too. The largest of them all, Newmont’s integrated Nevada operations (which collectively produced 567,000 oz in Q4 09), is highlighted in red.

Cost curve for gold mines worldwide: Q4 09



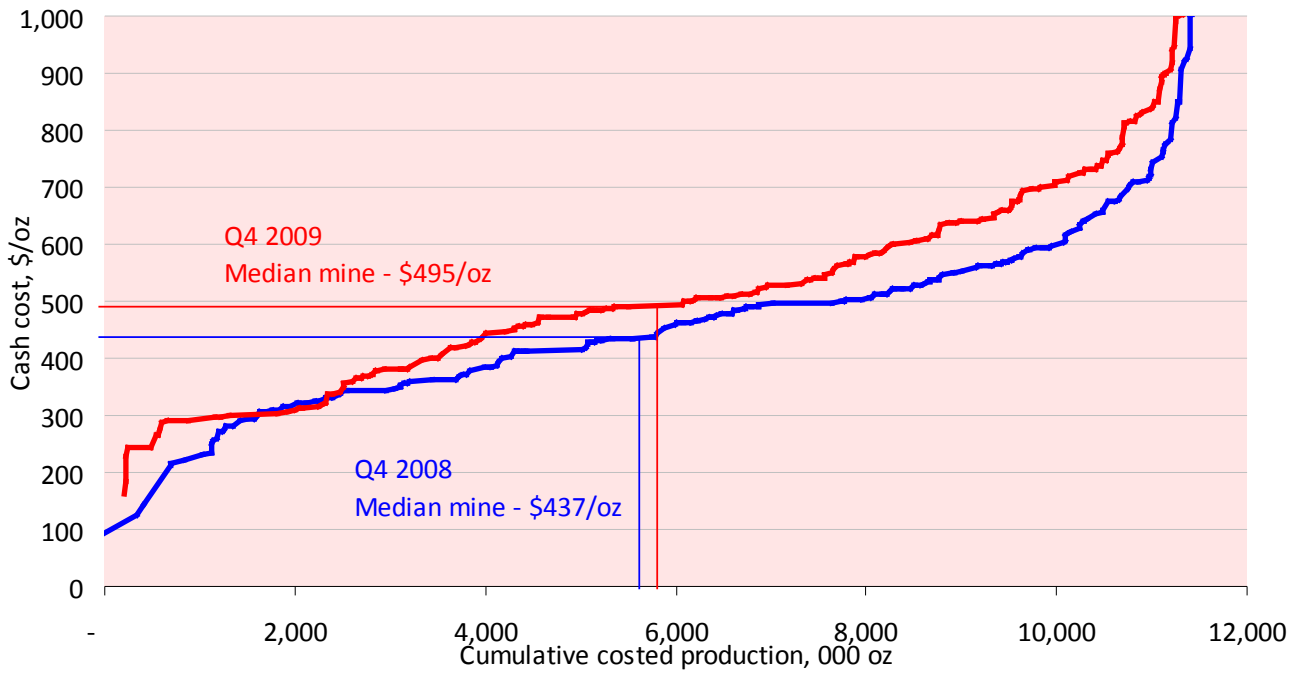
Source: VM Group/Haliburton Mineral Services

The **median cost ounce** is the one that falls halfway along the horizontal axis, which - as total production from these mines was 11.6 Moz during the quarter - is calculated from the mine that produced the 5.8 millionth cheapest ounce. Coincidentally in Q4 09 this happens also to be the Nevada operations, with a cash cost of \$495/oz. Similar to the medians, other positions on the cost curve can be determined, most obviously quartiles (at 25% and 75% of production) or even deciles (10%, 20%, 30% and so on up to 90%). In Q4 09 where costs are indicated at the 9th decile, the mine is therefore more expensive than 90% of mines, produces at a cost of \$738/oz, and costs are up \$18/oz on the previous quarter. Of note is that even these higher cost mines produce gold at costs that are considerably lower than the actual price of gold.

³ There are a few mines that have extremely high costs, which is normally because they are either starting-up, closing-down, or have major technological problems – in Q4 2009 there were 14 mines with cash costs of over \$1,000/oz, of which three had cash costs of over \$2,000/oz. These are indicated on our chart but we have fixed the scale of the vertical axis to a maximum of \$1,000/oz – in order to ensure that the other mines are more clearly shown.

One can also compare cost curves. For example the chart below compares costs in Q4 09 and Q4 08, where for clarity the delineation of individual mines has been removed. It can be seen that the median mine in Q4 09 is of considerably higher cost than the median mine in Q4 08 - \$495/oz compared with \$437/oz. Indeed in instances where costs are higher at most points on the curve (that the median appears at a slightly higher cumulative production in Q4 09 is simply because overall production was higher at 11.6 Moz compared with 11.4 Moz.).

Cost curve: Q4 09 and Q4 08, \$/oz



Source: VM Group/Haliburton Mineral Services

Regional cost analysis

We can also compare costs across regions of the world. We have split our mines into seven regions, ranging from the largest, Latin America (2.4 Moz production in Q4 09) to the smallest, Asia (0.7 Moz).

Gold cash costs by region, Q4 09, \$/oz unless stated

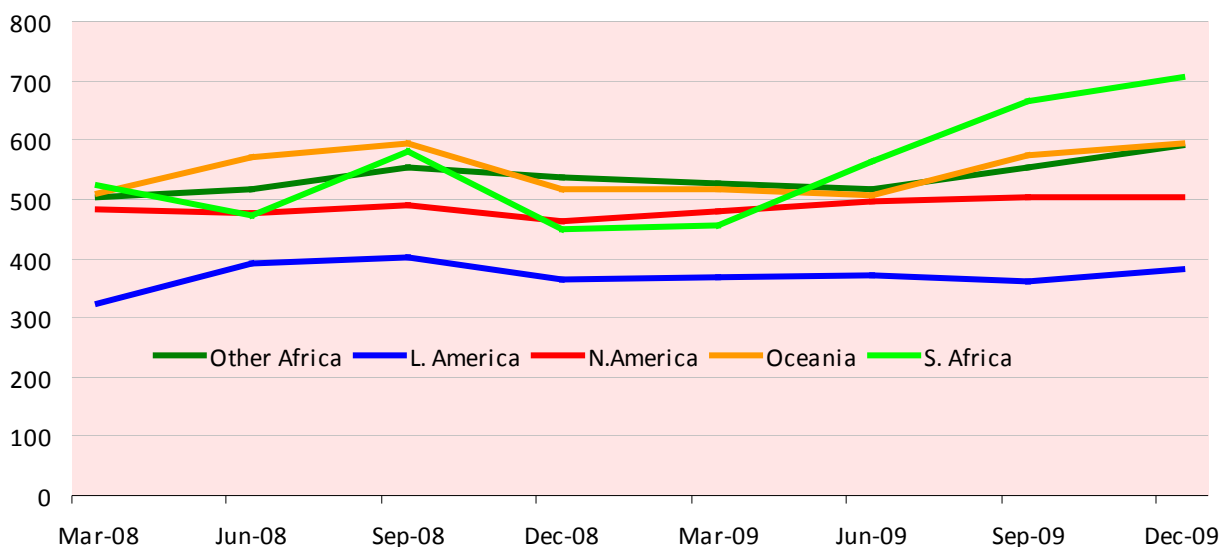
	S.Africa	Oceania	Other Africa	N. America	Asia	CIS/Europe	L. America
Average cost (\$/oz)	706	595	591	501	467	392	381
Cost at various positions on curve							
25%	593	485	500	450	429	291	303
Median -50%	696	603	512	495	446	405	341
75%	763	720	639	528	532	471	422
90%	1,014	832	757	625	568	580	577
Costed production (Moz)	1.5	1.9	1.7	2.1	0.7	1.3	2.4
Costed production (tonnes)	45	59	53	66	22	39	76

Source: VM Group/Haliburton Mineral Services

The region with the highest cost in Q4 09 was South Africa, with an average cash cost of \$706/oz. The lowest cost region was Latin America, at just \$381/oz. These results are the same if one looks at median cost, where it is \$696/oz and \$341/oz respectively. The cost curves for the five largest regions for Q4 09 and Q4 08 are shown on page 6 of this report.

Over time the changes in the five largest regions can be seen in the chart below. All except North America (which fell 1%) saw their average cash cost increase in Q4 09 compared with Q3 09, with the largest percentage increases in Other Africa (up 7%) and South Africa (up 6%). Over the 12 months from Q4 08 to Q4 09, when the global average rose 14%, South Africa's average cash cost rose 57%, far in advance of any of the other five major regions. This is mostly explained by a sharply higher local currency, with the rand appreciating over this period by 33%. Next was Oceania, up 15%, while Latin America kept its cost increases to just 4%.

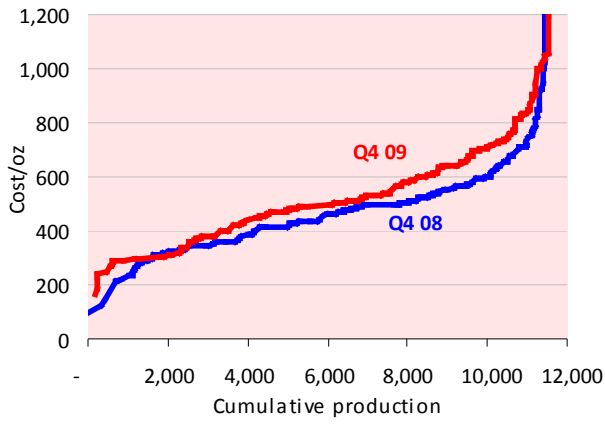
Average cash cost by region over time, \$/oz



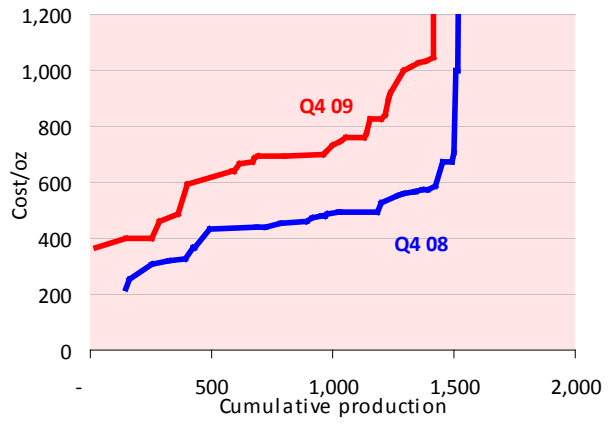
Source: VM Group, Haliburton Mineral Services

Cost curves by region

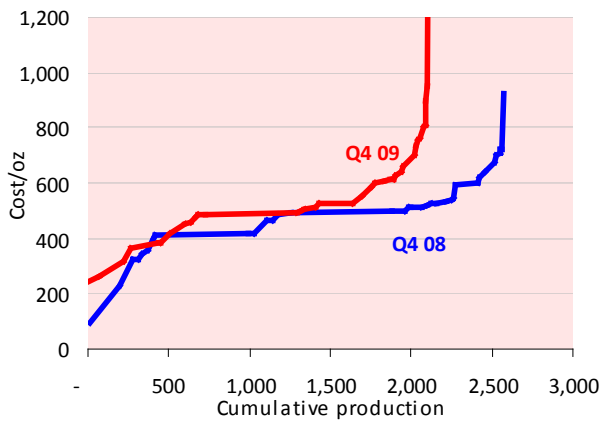
World



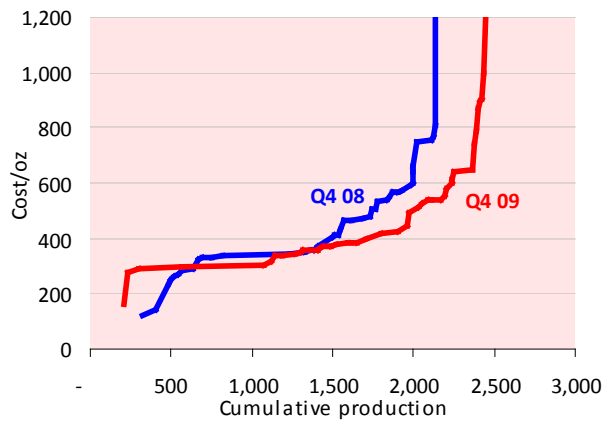
South Africa



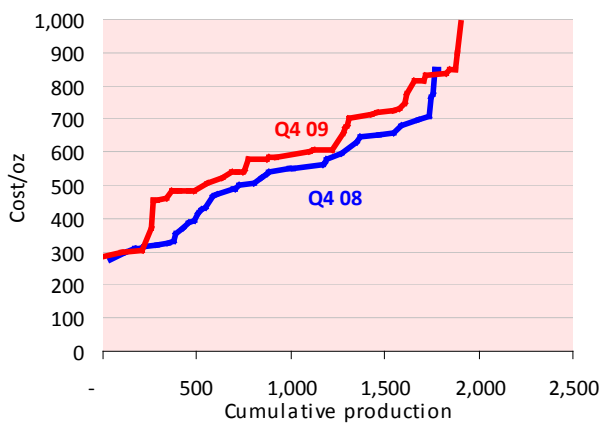
North America



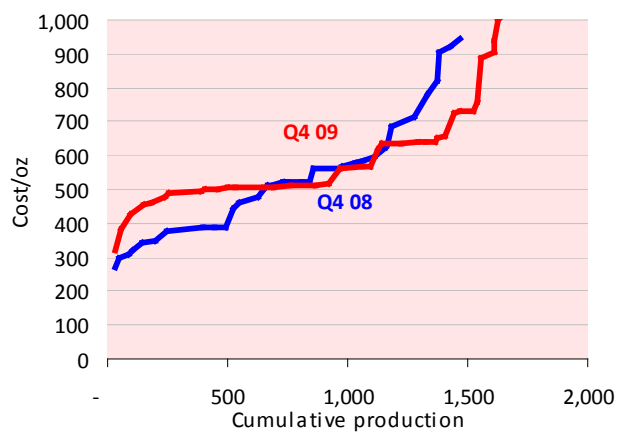
Latin America



Oceania



Other Africa



Methodology

The mine cash costs per ounce of production in this report are based on cost reporting by more than 80 gold mining companies with a total of approximately 232 mines in the most recent quarter. Although there is some variability in how companies report cash cost per ounce, most utilize the "Gold Institute Gold Cost Standard". These costs include direct mining and processing expenses, other onsite charges, third party smelting and refining charges as well as royalties and production taxes net of by product credits. Where reporting is at variance with the Gold Institute Standard recalculations have been made and in some cases estimates have been used where reliable data has not been available. In our analysis we have excluded mines where gold produced is not the principal source of revenue.

The reader is cautioned that cash costs are only one component of total costs which in addition to cash costs would include depreciation, depletion, amortization, reclamation and closure costs. In addition at the corporate level there would be general and administrative expenses, exploration expenses, etc.

About the authors

VM Group

VM Group is a commodities research consultancy that covers not just conventional energy, but also renewable energy, carbon, base and precious metals, and agricommodities. The VM Group comprises a uniquely skilled team that is highly experienced in the analysis of the fundamentals of commodities and their geopolitical impact and contexts.

VM Group work excels in macro-economic analysis, the generation of supply and demand scenarios, costs analysis, derivative research and price forecasting. Confidentiality, experience and independence are key elements in this advisory capacity. We deliver excellence to those in need of external expertise, as well as those who wish to supplement their own in-house resources. Our extensive international contacts mean we are able to span the globe.

To see further how we can meet your research and consulting requirements, please email: info@vmgroup.co.uk

VM Group

100 Ashmill Street
London NW1 6RA
Tel:+44 20 7569 5930
Fax:+44 20 7569 5931

Haliburton Mineral Services

Haliburton Mineral Services Inc.

46 Hemford Crescent
Toronto, Ontario
Canada M3B 2S5
Tel: +1 416 447 7524
Fax: +1 416 447 7750

Founded in 2002 Haliburton Mineral Services is a private mining research and advisory business based in Toronto, Canada. The company's President, Ted Reeve, has a background as a mining analyst and has published quarterly gold producer hedge surveys since 1990.

Disclaimer and copyright

This report was prepared by VM Group and Haliburton Mineral Services (hereafter 'VM Group/Haliburton'). VM Group/Haliburton has made all reasonable efforts to ensure that all information provided in this report is accurate and reliable at the time of inclusion; however, there may be inadvertent and occasional errors and lack of accuracy or correctness, for which VM Group/Haliburton cannot be held responsible. VM Group/Haliburton and its employees have no obligation to inform the reader when opinions and information contained in this report change.

VM Group/Haliburton make no representation or warranty, express or implicit, as to the accuracy or completeness of contents of this report. This report is not and cannot be construed as an offer to sell, buy or trade any securities, equities, commodities or related derivative products and the report in no way offers investment advice. Therefore VM Group/Haliburton employees accept no liability for any direct, special, indirect, or consequential losses or damages, or any other losses or damages of whatsoever kind, resulting from whatever cause through the use of any information obtained either directly or indirectly from this report.

The contents of this report, all the information, opinions and conclusions contained are protected by copyright. This complete report may not be reproduced without the express consent of VM Group/Haliburton. Short extracts may be reproduced but only with the full and appropriate citing of the original source.