

Examining the Cost Curve

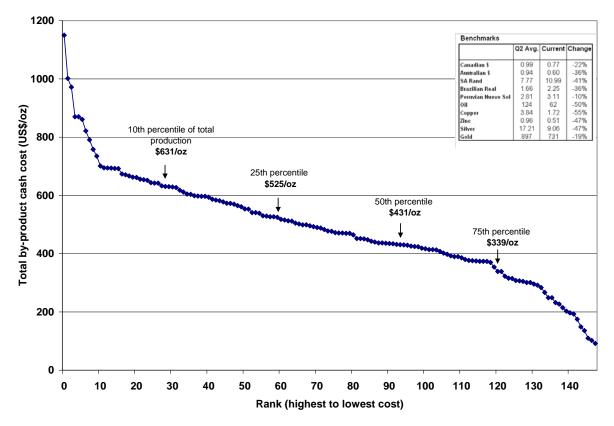
## Battered, but not yet Beaten

The recent pressures on commodities in general and gold in particular have led to the question - are gold producers still profitable at current prices? We have reviewed the Q2/08 costs of 152 gold mining operations around the globe (Figure 1, Table 1)) and can suggest that the answer is "yes", in most cases. While gold prices have come off the peak of over US\$1000/oz in March of this year, the decline has not been as dramatic as that seen in base metals over the same period. We do expect revenues and earnings to decline given current bullion prices; however, we do not expect to see a significant number of mine closures caused by low gold prices.

## **Bigger Continues to be Better**

While there are exceptions, we find that the larger producers usually inhabit the lower half of the cost curve, while the smaller producers dominate the upper end (Figure 2, Table 2). We note that the 17 lowest cost producers (out of a total of 35 in our survey) produced an average of over 420,000 oz of gold each in the second quarter of 2008, whereas the 17 highest cost producers turned out slightly more than 125,000 oz in the same period. We continue to recommend that investors focus on the larger cap, pure gold producers.

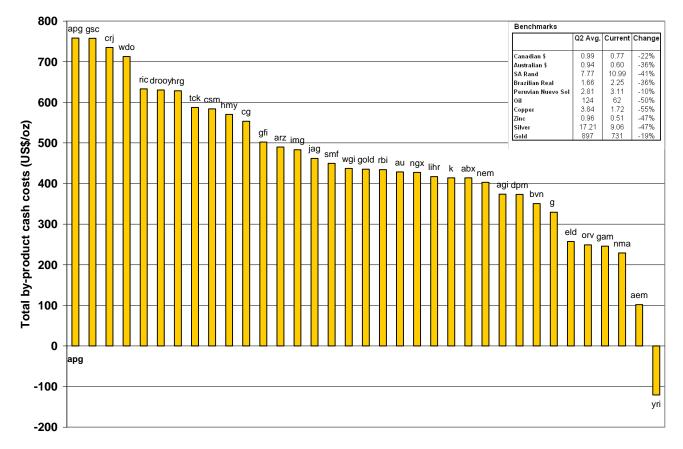
# Figure 1: Ranking of gold operations by Q2/08 total cash costs (data includes 148 operations producing 9.4MM oz gold at an average total cash cost of US\$435/oz) - note that rank refers to Table 1 and operations with negative cash costs are excluded



Third quarter production costs will likely be positively impacted by lower fuel costs (particularly in open pit operations) and, in the case of non-US operations, weakening local currencies as compared to the greenback. However, operations exposed to, or which have benefited from, base metal and/or silver by-product credits are likely to see costs increase. We note that the two lowest cost producers in the second quarter of 2008, Yamana Gold (YRI-TSX, Not Rated) and Agnico-Eagle Mines (AEM-T: BUY, Target Price C\$71.00), are both heavily exposed to base metal credits.

While production may not be in jeopardy, future growth profiles may be. We would not be surprised to hear that large capital development projects may be delayed and, contrary to conventional thinking, that there may be less interest in acquisitions (even as valuation spreads increase) as producers strive to protect earnings and cash in the current tight credit market.

Figure 2: Cost Profile of Gold Companies in Q2/08 (net of by-product credits)





|      |              |                  | Total Cash Costs | Production |
|------|--------------|------------------|------------------|------------|
| Rank | Company      | Operation        | Q2 2008          | Q2 2008    |
|      | ,            |                  | \$/oz            | (000 oz)   |
| 1    | Northgate    | Fosterville      | 1150             | 15         |
| 2    |              | South Deep       | 1002             | 38         |
|      | B High River | Taparko          | 972              | 9          |
| 2    |              | Bogoso           | 870              | 47         |
| Ę    |              | Cerro Vanguardia | 870              | 27         |
| 6    |              | Rossi            | 861              | 1          |
|      | Wesdome      | Kiena            | 822              | 9          |
|      | Harmony      | Virginia         | 791              | 57         |
|      | Apollo Gold  | Montan Tunnels   | 758              | 9          |
|      | Claude       | Seabee           | 735              | 12         |
|      | Harmony      | Target           | 701              | 21         |
|      |              | -                |                  | 10         |
|      | Buenaventura | Antapite         | 695<br>604       | 28         |
|      | B Harmony    | Masimong         | 694<br>604       |            |
|      | DRDGGOLD     | Blyvoor          | 694              | 35         |
|      | Jaguar       | Sabara           | 693              | 5          |
|      | Teck Cominco |                  | 692              | 33         |
|      | High River   | Irokinda         | 674              | 15         |
|      | Barrick      | Mara             | 671              | 49         |
|      | Yamana       | Sao Francisco    | 667              | 15         |
|      | Goldfields   | St. Ives         | 663              | 102        |
|      | Barrick      | Plutonic         | 662              | 28         |
| 22   | Barrick      | Hemlo            | 656              | 33         |
| 23   | Goldcorp     | Marigold         | 654              | 17         |
| 24   | Goldcorp     | Procupine        | 652              | 71         |
| 25   | Goldcorp     | Musselwhite      | 644              | 50         |
| 26   | Wesdome      | Eagle River      | 642              | 14         |
| 27   | Yamana       | San Andres       | 642              | 12         |
| 28   | Richmont     | Beaufor          | 633              | 17         |
| 29   | Centerra     | Kumtor           | 631              | 111        |
| 30   | Anglogold    | Geita            | 630              | 74         |
|      | IAMGOLD      | Doyon            | 629              | 29         |
|      | Northgate    | Stawell          | 627              | 23         |
|      | Newcrest     | Telfer           | 618              | 146        |
|      | Anglogold    | Obuasi           | 612              | 79         |
|      | Barrick      | Granny Smith     | 605              | 33         |
|      | Barrick      | Cowal            | 604              | 39         |
|      | Anglogold    | Navachab         | 599              | 16         |
|      | IAMGOLD      | Damang           | 598              | 10         |
|      | Barrick      | Bulyanhulu       | 597              | 55         |
|      | Goldcorp     | San Dimas        | 597              | 20         |
|      | Harmony      | Doorn-kop        | 594              | 11         |
|      | Golden Star  | Wassa            | 594<br>587       | 31         |
|      | Central Sun  | Limon            |                  | 9          |
|      |              |                  | 584              |            |
|      | IAMGOLD      | Yatela           | 582              | 15         |
|      | Goldfields   | Damang           | 578              | 50         |
|      | Harmony      | Bambanani        | 573              | 32         |
|      | Anglogold    | Yatela           | 573              | 15         |
|      | Barrick      | Turqoise Ridge   | 570              | 31         |
|      | Newmont      | Nevada           | 565              | 301        |
| 50   | Barrick      | Kalgoorlie       | 561              | 71         |

Table 1: Total Cash Costs by operation



|      |                 |                | Total Cash Costs | Production |
|------|-----------------|----------------|------------------|------------|
| Rank | Company         | Operation      | Q2 2008          | Q2 2008    |
|      |                 |                | \$/oz            | (000 oz)   |
|      | Anglogold       | Tau Lekoa      | 554              | 35         |
|      | 2 Anglogold     | Sunrise Dam    | 553              | 114        |
|      | 3 Barrick       | Bald Mountain  | 541              | 29         |
|      | 1 Harmony       | Elands-rand    | 541              | 50         |
|      | Semafo          | Samira         | 539              | 20         |
|      | Barrick         | Marigold       | 530              | 13         |
| 57   | DRDGGOLD        | Crown          | 529              | 22         |
|      | 3 Barrick       | Yilgarn South  | 527              | 29         |
| 59   | Barrick         | Darlot         | 527              | 29         |
| 60   | ) High River    | Berezitovy     | 525              | 16         |
| 61   | Newmont         | Batu Hijau     | 518              | 17         |
| 62   | 2 Harmony       | Evander        | 516              | 50         |
| 63   | 3 Harmony       | Phakisa        | 513              | 2          |
| 64   | 1 Anglogold     | Moab Khotsong  | 512              | 28         |
| 65   | Teck Cominco    | Pogo           | 505              | 42         |
| 66   | Kinross         | Paracatu       | 502              | 47         |
| 67   | Barrick         | Lawlers        | 499              | 27         |
| 68   | 3 Harmony       | Joel           | 499              | 20         |
| 69   | Randgold        | Loulo          | 496              | 70         |
|      | Anglogold       | Iduapriem      | 493              | 46         |
|      | Aurizon         | Casa Berardi   | 490              | 37         |
| 72   | Kinross         | Maricunga      | 488              | 57         |
|      | BIAMGOLD        | Rosebel        | 483              | 75         |
|      | Goldfields      | Beatrix        | 478              | 118        |
|      | Goldfields      | Kloof          | 477              | 179        |
|      | 6 Kinross       | Round Mountain | 472              | 66         |
| 77   |                 | Minera Florida | 471              | 14         |
|      | Barrick         | Round Mountain | 471              | 60         |
|      | Barrick         | Henty          | 470              | 18         |
|      | Goldcorp        | Los Filos      | 470              | 65         |
|      | Barrick         | Veladero       | 465              | 159        |
|      | Goldfields      | Agnew          | 452              | 55         |
|      | Barrick         | Goldstrike     | 452              | 373        |
|      | IAMGOLD         | Tarkwa         | 451              | 32         |
| 85   |                 | Wharf          | 448              | 15         |
|      | Goldfields      | Tarkwa         | 443              | 169        |
|      | Anglogold       | Savuka         | 440              | 18         |
|      | 3 Western Goldf |                | 437              | 29         |
|      | Red Back        | Tasiat         | 437              | 35         |
|      | Barrick         | Kawnona        | 436              | 66         |
|      | High River      | Zun-Holba      | 435              | 11         |
|      | 2 Anglogold     | Siguiri        | 434              | 86         |
|      | Anglogold       | Great Noligwa  | 432              | 96         |
|      | Red Back        | Chirano        | 432              | 30<br>30   |
|      | Newmont         | Nevada         | 430              | 554        |
|      | B Harmony       | Tshepong       | 430              | 63         |
|      | Anglogold       | Morila         | 429              | 46         |
|      | B Harmony       | Phoenix        | 425              | 40         |
|      | Barrick         |                | 423              |            |
|      |                 | Cortez         |                  | 103        |
| 100  | ) Semafo        | Mana           | 419              | 17         |

Table 1: Total Cash Costs by operation (continued)



| Rank | Company         | Operation     | Total Cash Costs<br>Q2 2008 | Production<br>Q2 2008 |
|------|-----------------|---------------|-----------------------------|-----------------------|
|      |                 |               | \$/oz                       | (000 oz)              |
|      | 1 Lihir         | Lihir Island  | 417                         | 171                   |
|      | 2 Goldfields    | Driefontein   | 414                         | 218                   |
|      | 3 Barrick       | Porgera       | 414                         | 152                   |
|      | 4 IAMGOLD       | Sadiola       | 413                         | 45                    |
|      | 5 Anglogold     | Sadiola       | 408                         | 45                    |
|      | 6 Kinross       | Fort Knox     | 402                         | 86                    |
|      | 7 Randgold      | Morila        | 398                         | 114                   |
|      | 8 Harmony       | Kalgold       | 393                         | 21                    |
|      | 9 Newmont       | Ahafo         | 390                         | 134                   |
|      | 0 Jaguar        | Turmalina     | 390                         | 16                    |
| 11   | 1 Buenaventura  | Yanacocha     | 386                         | 104                   |
| 11   | 2 Semafo        | Kiniero       | 380                         | 18                    |
|      | 3 IAMGOLD       | Mupane        | 377                         | 25                    |
|      | 4 Yamana        | Fazendo       | 376                         | 28                    |
| 11   | 5 Gammon        | El Cubo       | 375                         | 11                    |
| 11   | 6 Newmont       | Yanacocha     | 374                         | 222                   |
| 11   | 7 Alamos        | Mulatos       | 374                         | 39                    |
| 11   | 8 Dundee Precio | Chelopech     | 373                         | 19                    |
| 11   | 9 Centerra      | Boroo         | 370                         | 47                    |
| 12   | 0 Newcrest      | Caracow       | 354                         | 22                    |
| 12   | 1 Anglogold     | TauTona       | 339                         | 91                    |
| 12   | 2 Goldcorp      | Red Lake      | 339                         | 150                   |
| 12   | 3 Anglogold     | Brazil        | 323                         | 82                    |
| 12   | 4 Anglogold     | Kopanang      | 316                         | 96                    |
| 12   | 5 Kinross       | La Coipa      | 315                         | 33                    |
| 12   | 6 Barrick       | Sunlight      | 308                         | 30                    |
| 12   | 7 Anglogold     | Serra Grande  | 307                         | 22                    |
| 12   | 8 Eldorado      | Tanjianshan   | 305                         | 29                    |
| 12   | 9 Newmont       | Australia     | 301                         | 565                   |
| 13   | 0 Anglogold     | Cripple Creek | 301                         | 59                    |
|      | 1 Kinross       | Crixas        | 296                         | 22                    |
| 13   | 2 Kinross       | Kupol         | 292                         | 43                    |
| 13   | 3 Yamana        | El Penon      | 284                         | 114                   |
| 13   | 4 Barrick       | Pierina       | 267                         | 115                   |
|      | 5 Buenaventura  |               | 249                         | 70                    |
|      | 6 Orvana        | Don Mario     | 249                         | 21                    |
| 13   | 7 Eldorado      | Kisladag      | 232                         | 55                    |
|      | 8 Anglogold     | Mponeng       | 227                         | 160                   |
|      | 9 Newcrest      | Gosowong      | 215                         | 104                   |
|      | 0 Gammon        | Ocampo        | 203                         | 33                    |
|      | 1 Goldcorp      | Marlin        | 197                         | 51                    |
|      | 2 Newcrest      | Cadia Hill    | 193                         | 81                    |
|      | 3 Barrick       | Tulawaka      | 175                         | 47                    |
|      | 4 Goldcorp      | El Sauzal     | 149                         | 68                    |
|      | 5 Barrick       | Lagunas Norte | 136                         | 262                   |
|      | 6 Barrick       | Ruby Hill     | 110                         | 19                    |
|      | 7 Agnico        | Laronde       | 102                         | 59                    |
|      | 8 Northgate     | Kemess South  | 92                          | 46                    |
|      | 9 Yamana        | Jacobina      | -252                        | 16                    |
|      | 0 Newcrest      | Ridgeway      | -443                        | 82                    |
|      | 51 Goldcorp     | Alumbrera     | -715                        | 41                    |
|      | 2 Yamana        | Chapada       | -2219                       | 41                    |

Table 1: Total Cash Costs by operation (continued)



|                    | Total Cash Costs |
|--------------------|------------------|
|                    | \$/oz            |
| Apollo Gold        | 758              |
| Golden Star        | 758              |
| Claude             | 735              |
| Wesdome            | 713              |
| Richmont           | 633              |
| DRDGGOLD           | 630              |
| High River         | 628              |
| Teck Cominco       | 587              |
| Central Sun        | 584              |
| Harmony            | 570              |
| Centerra           | 553              |
| Goldfields         | 502              |
| Aurizon            | 490              |
| IAMGOLD            | 483              |
| Jaguar             | 462              |
| Semafo             | 450              |
| Western Goldfields | 437              |
| Randgold           | 435              |
| Red Back           | 434              |
| Anglogold          | 429              |
| Northgate          | 427              |
| Lihir              | 417              |
| Kinross            | 414              |
| Barrick            | 414              |
| Newmont            | 403              |
| Alamos             | 374              |
| Dundee Precious    | 373              |
| Buenaventura       | 351              |
| Goldcorp           | 329              |
| Eldorado           | 257              |
| Orvana             | 249              |
| Gammon             | 246              |
| Newcrest           | 229              |
| Agnico             | 102              |
| Yamana             | -121             |



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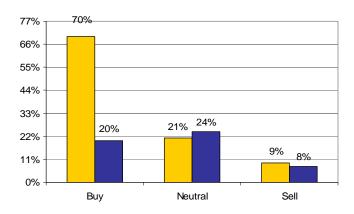


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