

# West African Gold Mines

## Quarterly Summary to 31 December 2018



For the quarter ending 31 December 2018 reported gold production totalled 2.04 Moz, with Ghana, Burkina Faso and Mali accounting for 77.9% of the production. Randgold's Loulo mine in Mali once again was the largest gold producer with 192,043 oz, followed by Gold Fields' Tarkwa mine (134,000 oz) in Ghana and Newmont Corporation's Ahafo mine (128,000 oz) in Ghana.

The average gold price (London PM Fix) for the quarter was US\$1,227/oz. The average reported All-in Sustaining Costs (AISC) was US\$999/oz and to be considered in the lowest cost quartile an AISC of less than or equal to US\$769/oz was required. The mine with the lowest reported AISC was SEMAFO's Boungou mine in Burkina Faso with an AISC of US\$579/oz, this was followed by Endeavour Mining's Houde mine (US\$580/oz) in Burkina Faso and B2Gold's Fekola mine (US\$600/oz) in Mali.

### Top 10 Gold Mines by Gold Production

| Rank | Operation | Country  | Principal Owners (Excluding Govt Interests) | Au Produced (oz)                 |         |
|------|-----------|----------|---|----------------------------------|---------|
| 1    | -         | Loulo    | Mali  | Barrick Gold Corporation 80%     | 192,043 |
| 2    | -         | Tarkwa   | Ghana                                       | Gold Fields Limited 90%          | 134,000 |
| 3    | ↑3        | Ahafo    | Ghana                                       | Newmont Mining Corporation 100%  | 128,000 |
| 4    | ↑1        | Essakane | Burkina Faso                                | IAMGOLD Corporation 90%          | 114,000 |
| 5    | ↓2        | Fekola   | Mali  | B2Gold Corporation 80%           | 105,820 |
| 6    | ↓2        | Akyem    | Ghana                                       | Newmont Mining Corporation 100%  | 101,000 |
| 7    | ↑8        | Tasiast  | Mauritania                                  | Kinross Gold Corporation 100%    | 91,548  |
| 8    | ↑19       | Tongon   | Cote d'Ivoire                               | Barrick Gold Corporation 89.7%   | 80,614  |
| 9    | ↑1        | Houde    | Burkina Faso                                | Endeavour Mining Corporation 90% | 76,000  |
| 10   | ↓3        | Siguiri  | Guinea                                      | AngloGold Ashanti Limited 85%    | 72,000  |

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### Top 10 Gold Mines by All-In Sustaining Costs

| Rank | Operation | Country   | Principal Owners (Excluding Govt Interests) | AISC (US\$/oz)   |     |
|------|-----------|-----------|---|--|-----|
| 1    | ↑8        | Boungou   | Burkina Faso                                | SEMAFO Inc. 90%  | 579 |
| 2    | ↑1        | Houde     | Burkina Faso                                | Endeavour Mining Corporation 90%                         | 580 |
| 3    | ↓1        | Fekola    | Mali  | B2Gold Corporation 80%                                   | 600 |
| 4    | ↑2        | Ity       | Cote d'Ivoire                               | Endeavour Mining Corporation 85%; Didier Drogba Group 5% | 625 |
| 5    | ↓4        | Akyem     | Ghana                                       | Newmont Mining Corporation 100%                          | 672 |
| 6    | ↑5        | Karma     | Burkina Faso                                | Endeavour Mining Corporation 90%                         | 750 |
| 7    | ↑13       | Ahafo     | Ghana                                       | Newmont Mining Corporation 100%                          | 769 |
| 8    | ↓2        | Agbaou    | Cote d'Ivoire                               | Endeavour Mining Corporation 85%                         | 775 |
| 9    | ↓5        | Sissingue | Cote d'Ivoire                               | Perseus Mining Limited 86%                               | 776 |
| 10   | ↑9        | Syama     | Mali  | Resolute Mining Limited 80%                              | 822 |

### Gold Operations That Report All-In Sustaining Costs

| AISC Rank | Operation    | Country       | Principal Owners (Excluding Govt Interests)              | Au Produced (oz) | AISC (US\$/oz) |
|-----------|--------------|---------------|--|------------------|----------------|
| 1         | Boungou      | Burkina Faso  | SEMAFO Inc. 90%  | 53,100           | 579            |
| 2         | Houde        | Burkina Faso  | Endeavour Mining Corporation 90%                         | 76,000           | 580            |
| 3         | Fekola       | Mali          | B2Gold Corporation 80%                                   | 105,820          | 600            |
| 4         | Ity          | Cote d'Ivoire | Endeavour Mining Corporation 85%; Didier Drogba Group 5% | 21,000           | 625            |
| 5         | Akyem        | Ghana         | Newmont Mining Corporation 100%                          | 101,000          | 672            |
| 6         | Karma        | Burkina Faso  | Endeavour Mining Corporation 90%                         | 33,000           | 750            |
| 7         | Ahafo        | Ghana         | Newmont Mining Corporation 100%                          | 128,000          | 769            |
| 8         | Agbaou       | Cote d'Ivoire | Endeavour Mining Corporation 85%                         | 44,000           | 775            |
| 9         | Sissingue    | Cote d'Ivoire | Perseus Mining Limited 86%                               | 17,937           | 776            |
| 10        | Syama        | Mali          | Resolute Mining Limited 80%                              | 56,207           | 822            |
| 11        | Yaramoko     | Burkina Faso  | Roxgold Inc. 90%   | 25,844           | 836            |
| 12        | Sadiola Hill | Mali          | AngloGold Ashanti Limited 41%; IAMGOLD Corporation 41%   | 37,000           | 851            |
| 13        | Tarkwa       | Ghana         | Gold Fields Limited 90%                                  | 134,000          | 924            |
| 14        | Damang       | Ghana         | Gold Fields Limited 90%                                  | 40,000           | 937            |
| 15        | Sabodala     | Senegal       | Teranga Gold Corporation 90%                             | 59,442           | 998            |
| 16        | Mana         | Burkina Faso  | SEMAFO Inc. 90%  | 42,100           | 1,021          |



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| AISC Rank | Operation    | Country      | Principal Owners (Excluding Govt Interests)                   | Au Produced (oz) | AISC (US\$/oz) |
|-----------|--------------|--------------|---|------------------|----------------|
| 17        | Youga        | Burkina Faso | Avesoro Resources Inc. 90%                                    | 20,389           | 1,069          |
| 18        | Asanko       | Ghana        | Asanko Gold Inc. 45%; Gold Fields Limited 45%                 | 59,823           | 1,072          |
| 19        | Iduapriem    | Ghana        | AngloGold Ashanti Limited 100%                                | 64,000           | 1,076          |
| 20        | Essakane     | Burkina Faso | IAMGOLD Corporation 90%                                       | 114,000          | 1,114          |
| 21        | Bissa-Bouly  | Burkina Faso | Nord Gold SE 90%  | 62,500           | 1,147          |
| 22        | Edikan       | Ghana        | Perseus Mining Limited 90%                                    | 50,141           | 1,151          |
| 23        | Siguiri      | Guinea       | AngloGold Ashanti Limited 85%                                 | 72,000           | 1,225          |
| 24        | Bea Mountain | Liberia      | Avesoro Resources Inc. 90%                                    | 24,573           | 1,246          |
| 25        | Tabakoto     | Mali         | BCM Investments Limited 80%                                   | 30,000           | 1,315          |
| 26        | Morila       | Mali         | AngloGold Ashanti Limited 40%; Randgold Resources Limited 40% | 19,679           | 1,323          |
| 27        | Lefa         | Guinea       | Nord Gold SE 100%   | 38,800           | 1,418          |
| 28        | Taparko      | Burkina Faso | Nord Gold SE 90%  | 24,200           | 1,615          |
| 29        | Yanfolila    | Mali         | Hummingbird Resources Plc 80%                                 | 17,895           | 1,677          |

**Notes:** Sadiola Hill's AISC is the weighted average of AngloGold Ashanti Limited's and IAMGOLD Corporation's AISC; Morila's AISC is only AngloGold Ashanti Limited's reported AISC as Randgold Resources Limited does not report individual mine AISC. At the time of reporting Robex Resources Inc. had not reported their quarterly results.

### Gold Operations That Do Not Report AISC

| Rank | Operation      | Country       | Principal Owners (Excluding Govt Interests) | Au Produced (oz) |
|------|----------------|---------------|---|------------------|
| 1    | Loulo          | Mali          | Randgold Resources Limited 80%              | 192,043          |
| 2    | Tasiast        | Mauritania    | Kinross Gold Corporation 100%               | 91,548           |
| 3    | Tongon         | Cote d'Ivoire | Randgold Resources Limited 89.7%            | 80,614           |
| 4    | Chirano        | Ghana         | Kinross Gold Corporation 90%                | 51,273           |
| 5    | Wassa          | Ghana         | Golden Star Resources Limited 90%           | 37,562           |
| 6    | Bogoso-Prestea | Ghana         | Golden Star Resources Limited 90%           | 11,284           |
| 7    | Bonikro        | Cote d'Ivoire | LGL Mines CI SA 89.9%                       | NA               |
| 8    | Nzema          | Ghana         | BCM International Limited 90%               | NA               |

**Notes:** BCM International Limited is a private company, which recently purchased the Nzema mine and do not report quarterly production results. LGL Mines CI SA a private company purchased the Bonikro mine from Newcrest Mining Limited.

**Data Sources:** Data was sourced from company quarterly reports, S&P Global Market Intelligence, cost curve created by Aurum Analytics.

