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## **Resource Upgrade in Ghana Ayanfuri Gold Project**

**Perseus Mining Limited** (ASX: PRU) is pleased to announce a resource increase to 1.36Moz, for its Ayanfuri Gold Project in Ghana after upgrades were announced for two of seven identified gold deposits on the project.

The upgrade for the Esuajah North and Esuajah South deposits will be followed by new resource estimates for three more of the Ayanfuri deposits in June and two more in July and August.

Total Indicated and Inferred resources at Esuajah North and Esuajah South have increased by 753,000 ounces to 1,061,000 ounces of contained gold, a 240 percent increase.

"We are very pleased with these results, it means that we are on target to announce in excess of three million ounces of gold resources for the Ayanfuri project by the end of this year," according to Mark Calderwood, Perseus's Managing Director.

"It is going to be a busy few months as we continue to receive new resource estimates and drilling results from the other deposits within the Ayanfuri project.

"We have also planned more drilling for the Esuajah South deposit over the coming months and this is expected to lead to a further upgrade for that deposit later in the year," Mr Calderwood said.

This 24 percent increase in the resources for the two deposits takes Perseus's total gold resources on its Ghana projects to 2.18 million ounces.

Indicated contained gold resources for the two deposits now stand at 347,600 ounces comprising:

- Esuajah South - 2.9Mt at 1.5g/t Au for 141,700 ounces; and
- Esuajah North - 5.4Mt at 1.2 g/t Au for 205,900 ounces.

Inferred contained gold resources for the two deposits now stand at 713,600 ounces comprising:

- Esuajah South - 5.0Mt at 2.4g/t Au for 385,800 ounces; and
- Esuajah North - 8.2Mt at 1.3 g/t Au for 327,800 ounces.

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| Esuajah South Deposit<br>Mineral Resource Estimate (Gold) |                      |                    |                             |                    |                    |                             |                    |                    |                             |
|-----------------------------------------------------------|----------------------|--------------------|-----------------------------|--------------------|--------------------|-----------------------------|--------------------|--------------------|-----------------------------|
| Indicated                                                 | Oxide and Transition |                    |                             | Sulphide           |                    |                             | Total *            |                    |                             |
|                                                           | Tonnes<br>(x1,000)   | Grade<br>Au<br>g/t | Ounces<br>cont.<br>(x1,000) | Tonnes<br>(x1,000) | Grade<br>Au<br>g/t | Ounces<br>cont.<br>(x1,000) | Tonnes<br>(x1,000) | Grade<br>Au<br>g/t | Ounces<br>cont.<br>(x1,000) |
| >0.8g/t Au<br>above<br>-100mRL                            | 57                   | 2.2                | 4.1                         | 2,874              | 1.5                | 137.6                       | 2,932              | 1.5                | 141.7                       |
| Inferred                                                  | Oxide and Transition |                    |                             | Sulphide           |                    |                             | Total *            |                    |                             |
|                                                           | Tonnes<br>(x1,000)   | Grade<br>Au<br>g/t | Ounces<br>cont.<br>(x1,000) | Tonnes<br>(x1,000) | Grade<br>Au<br>g/t | Ounces<br>cont.<br>(x1,000) | Tonnes<br>(x1,000) | Grade<br>Au<br>g/t | Ounces<br>cont.<br>(x1,000) |
| >0.8g/t Au<br>above<br>-100mRL                            |                      |                    |                             | 3,730              | 2.2                | 321.1                       | 3,730              | 2.2                | 321.1                       |
| >2.0g/t Au<br>below<br>-100mRL                            |                      |                    |                             | 1,260              | 3.1                | 64.7                        | 1,260              | 3.1                | 64.7                        |
| Total                                                     |                      |                    |                             | 4,990              | 2.4                | 385.8                       | 4,990              | 2.4                | 385.8                       |

\* Rounding applied

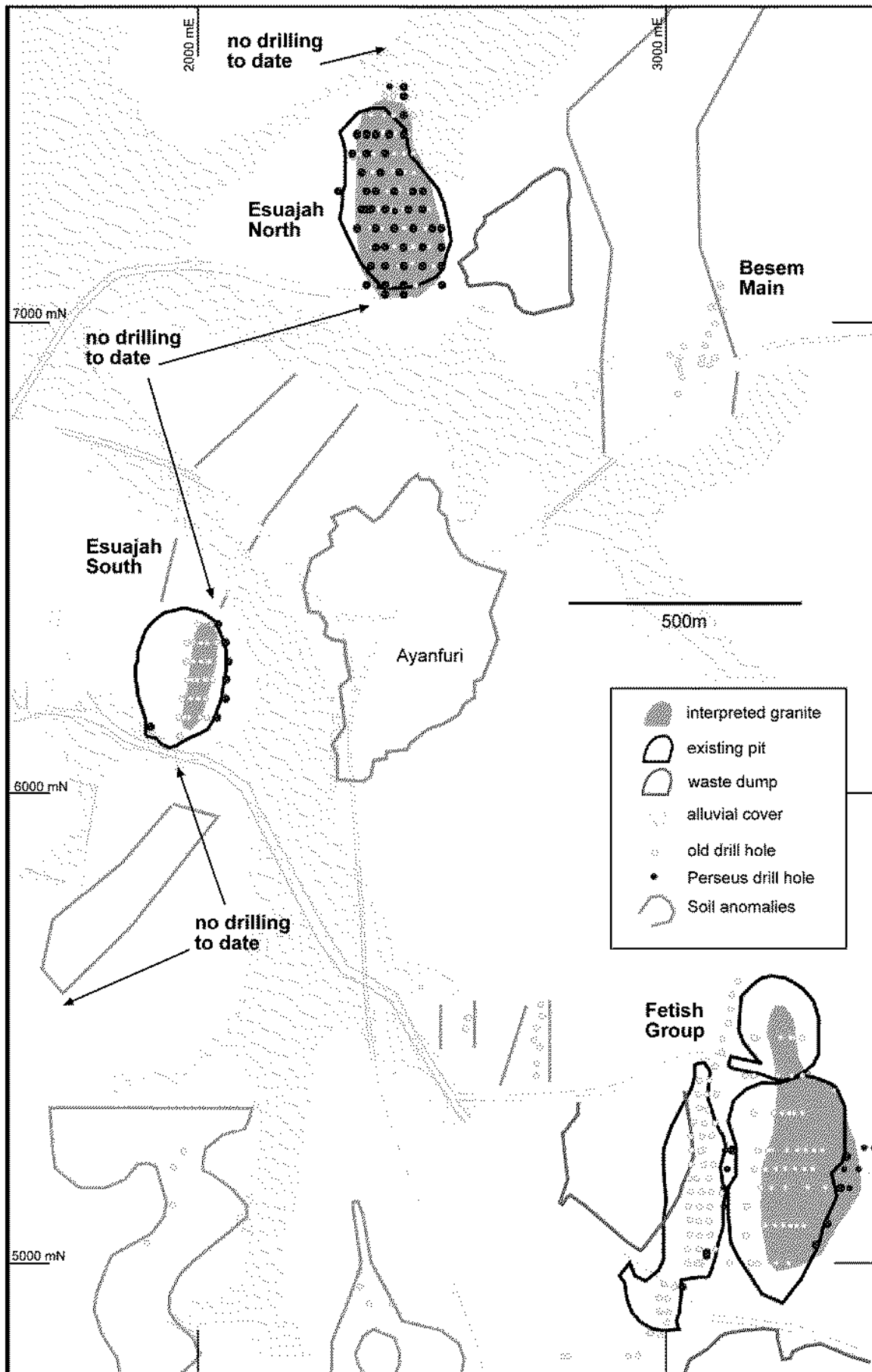
Notes to the estimate are contained in the attached Appendix 1

| Esuajah North Deposit<br>Mineral Resource Estimate (Gold) |                      |                    |                             |                    |                    |                             |                    |                    |                             |
|-----------------------------------------------------------|----------------------|--------------------|-----------------------------|--------------------|--------------------|-----------------------------|--------------------|--------------------|-----------------------------|
| Indicated                                                 | Oxide and Transition |                    |                             | Sulphide           |                    |                             | Total *            |                    |                             |
|                                                           | Tonnes<br>(x1,000)   | Grade<br>Au<br>g/t | Ounces<br>cont.<br>(x1,000) | Tonnes<br>(x1,000) | Grade<br>Au<br>g/t | Ounces<br>cont.<br>(x1,000) | Tonnes<br>(x1,000) | Grade<br>Au<br>g/t | Ounces<br>cont.<br>(x1,000) |
| >0.8g/t Au                                                | 387                  | 1.3                | 15.7                        | 4,994              | 1.2                | 190.2                       | 5,381              | 1.2                | 205.9                       |
| 0.5-0.8g/t Au                                             | 117                  | 0.7                | 2.5                         | 2,607              | 0.6                | 55.7                        | 2,724              | 0.6                | 58.2                        |
| Total                                                     | 504                  | 1.1                | 18.2                        | 7,601              | 1.1                | 245.9                       | 8,105              | 1.0                | 264.1                       |
| Inferred                                                  | Oxide and Transition |                    |                             | Sulphide           |                    |                             | Total *            |                    |                             |
|                                                           | Tonnes<br>(x1,000)   | Grade<br>Au<br>g/t | Ounces<br>cont.<br>(x1,000) | Tonnes<br>(x1,000) | Grade<br>Au<br>g/t | Ounces<br>cont.<br>(x1,000) | Tonnes<br>(x1,000) | Grade<br>Au<br>g/t | Ounces<br>cont.<br>(x1,000) |
| >0.8g/t Au                                                |                      |                    |                             | 8,160              | 1.3                | 327.8                       | 8,160              | 1.3                | 327.8                       |
| 0.5-0.8g/t Au                                             |                      |                    |                             | 4,550              | 0.6                | 93.6                        | 4,550              | 0.6                | 93.6                        |
| Total                                                     |                      |                    |                             | 12,710             | 1.0                | 423.4                       | 12,710             | 1.0                | 423.4                       |

\* Rounding applied

Notes to the estimate are contained in the attached Appendix 1

# Esujah North and South Gold Deposits - Ayanfuri Gold Project



## Background on Ayanfuri Gold Project

In March 2007 Perseus exercised an option to purchase a company which has rights to two mining leases and a prospecting licence at Ayanfuri (the "Ayanfuri Mine Licences"), and two reconnaissance licences covering a project area of 510.6sq km. The project is located 25-65kms south-west of Obuasi on the Ashanti Gold Belt in Ghana.

Perseus's second Ghanaian project, the 800,000oz Grumesa project, adjoins the Ayanfuri project area to the east. The Obuasi (Ashanti) gold mine, situated to the north-east, is one of Africa's premier producing gold mines, having produced in excess of 60 million ounces.

The Ayanfuri Mine Licences incorporate the Ayanfuri mine, which produced 306,400 ounces of gold from multiple open pits and an oxide ore heap leaching circuit between 1994 and 2001.

Feasibility studies are being conducted for a 2Mtpa CIL plant operation at Ayanfuri and a heap leach operation at Perseus's nearby Grumesa project. Current resources for the Ayanfuri project are 461,000 ounces Indicated and 900,000 ounces Inferred from 5 of the 19 deposits previously mined.

## Mineral Resources (Gold) - Ayanfuri Gold Project

| Deposit                        | Indicated        |             |                | Inferred         |            |                |
|--------------------------------|------------------|-------------|----------------|------------------|------------|----------------|
|                                | Tonnes<br>(000s) | g/t<br>Au   | Ounces<br>Au   | Tonnes<br>(000s) | g/t<br>Au  | Ounces<br>Au   |
| Esujah North <sup>(1, 4)</sup> | 5,381            | 1.20        | 205,900        | 8,160            | 1.3        | 327,800        |
| Esujah South <sup>(1, 3)</sup> | 2,932            | 1.50        | 141,700        | 4,990            | 2.4        | 385,800        |
| Abnabna <sup>(2)</sup>         | 1,560            | 1.70        | 85,300         | 2,000            | 1.6        | 104,000        |
| Ataasi <sup>(2)</sup>          | 340              | 2.60        | 28,500         | 200              | 2.8        | 18,000         |
| Chirawewa <sup>(2)</sup>       |                  |             |                | 1,200            | 1.6        | 65,000         |
| <b>Totals</b>                  | <b>10,213</b>    | <b>1.40</b> | <b>461,400</b> | <b>16,550</b>    | <b>1.7</b> | <b>900,600</b> |

### Notes

- 1 Resource Evaluations May 2007 Estimate based on Perseus, Cluff and AGC drill data;
- 2 Perseus Mining May 2006 Estimate based on Cluff and AGC drill data;
- 3 Excludes low grade mineralisation of 4.4Mt at 1.0g/t Au
- 4 Excludes low grade mineralisation of 7.3Mt at 0.6g/t Au
- 5 Rounding applied to totals;

Gold mineralisation at Ayanfuri occurs within a series of granitoid stocks intruded along a major deformation zone, and to a lesser extent within the enclosing sheared metasediments. Several shallow open cut mines were developed on the outcropping granitoid stocks towards the end of mining operations in 2001, but their depth potential was not tested at the time due to the low prevailing gold price.

Perseus is currently undertaking extensive drilling on the Ayanfuri project and expects to release upgrad

**Perseus Mining** was listed on the ASX in September 2004 to explore and develop several advanced gold projects located in West Africa and Central Asia.

Perseus has experienced staff working in regions which host numerous "World Class" gold deposits, but which remain amongst the least explored by modern techniques.

Perseus is demonstrating the potential of its key projects in Ghana, Ivory Coast and the Kyrgyz Republic and now has a resource base of over 2.8 million ounces of gold. Results from ongoing drilling campaigns on these projects should result in further significant resource upgrades during the remainder of 2007.

To discuss any aspect of this announcement, please contact Richard Taylor at [taylorr@perseusmining.com](mailto:taylorr@perseusmining.com)

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Mark Calderwood  
Managing Director

*The information in this report that relates to exploration results is based on information compiled by Mr Mark Calderwood, who is a Member of The Australasian Institute of Mining and Metallurgy. Mr Calderwood is a Director and full-time employee of the Company. Mr Calderwood has sufficient experience, which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2004 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mr Calderwood consents to the inclusion in this report of the matters based on his information in the form and context in which it appears.*

*The information in this report that relates to mineral resources at the Esujah North and Esujah South deposits is based on a resource estimate that has been compiled by Mr Paul Payne, who is a Principal of and a full time employee of Resource Evaluations Pty Ltd. Mr Payne is a Member of The Australasian Institute of Mining and Metallurgy and has sufficient experience, which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2004 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mr Payne and Resource Evaluations Pty Ltd consent to the inclusion in this report of the matters based on their information in the form and context in which it appears. Mr Payne and Resource Evaluations Pty Ltd have not been involved in the preparation of any other part of this report.*

## **Appendix 1**

### **Notes on the Esuajah North resource estimate**

- 1) The Mineral Resource estimate for the Esuajah North gold deposit of the Ayanfuri Gold Project was completed in May 2007 by Resource Evaluations Pty Ltd for Perseus Mining Ltd.
- 2) The Esuajah North deposit is located within altered Lower Proterozoic Biriman (2.17-2.18 billion years) granitoid. The Esuajah North granitoid is about 400m long and 100m wide and appears to be pervasively mineralised (0.1g/t to 2g/t) with higher grades associated with sheeted quartz veining.
- 3) The drill database contains 108 Reverse Circulation (RC) drill holes totaling 7,135m and 6 diamond holes totaling 1,332m and 71,100m of grade control sampling channels undertaken during mining. Sample recovery is considered to have been to industry standard for both RC and diamond cored drilling.
- 4) Pre 2006 RC drilling were routinely analysed for gold using a 0.5 kg 24hr bulk cyanide leach method. 2006 to 2007 RC drill samples were analysed by 1kg 24hr bulk cyanide leach method with the tails of all samples with assays over 0.5g/t being assayed by fire assay. Only the recovered grades of the bulk cyanide leach method were used in the resource calculation. 2006 to 2007 diamond drill samples were analysed by 50g fire assay method. Standards, spikes, blanks and repeat samples have been randomly submitted during all drilling programs.
- 5) The relative position of all drill-hole collars is survey controlled with each hole being surveyed or related back to the original mine grid using a total station theodolite. Holes are considered to be accurate to within 1m horizontally and 0.5m vertically. The surface topography of the Esuajah North deposit used for resource modeling was generated using lattice gridding of survey data points and is considered to be sufficiently accurate for the generation of Indicated and Inferred Mineral Resource estimates. Bottom-of-hole single shot surveys were generally a systematic part of the process of deeper percussion drilling at the Esuajah North prospect. However, the surveys were limited to dip measurements only. Acid etch methodology was used for 2006 and 2007 diamond core holes down hole surveys. The down-hole sample location data for the Esuajah North prospect is considered adequate to allow for the estimation of Indicated and Inferred Mineral Resources.
- 6) The existing Esuajah North pit was defined using a combination of mining survey data, the depth of back fill in 2006-2007 drill holes (typically 15 to 20m down hole) and grade control data.
- 7) The Esuajah North resource area extends over a strike length of 600m from 7000mN to 7600mN and includes the 260m vertical interval from surface at 160mRL to -100mRL.
- 8) The resource estimate database includes assay and lithological data compiled on drilling, logging and assaying of the samples recovered from the 98 RC and 6 diamond holes within and projected across, the 450m of strike of the Esuajah North deposit. Drilling was carried out along east-west fences which were nominally spaced at 40 meter grid north intervals and at 10 to 30 meters centre. All drill-holes were inclined at between 45° and 60° grid west and east azimuths. The reporting of gold values used for plotting and grade estimation was the first bulk cyanide leach determination or, in its absence, the first fire assay determination presented by the laboratory.
- 9) Bulk densities have been adopted from the historic Ayanfuri database comprising 115 bulk oxide samples and 61kg of sulphide diamond drill core.
- 10) Wireframes were constructed using cross sectional interpretations based on geology or a 0.3g/t Au cut-off grade.
- 11) Samples within the wireframes were composited to even 2.0m intervals. A 20g/t high grade cut was applied to gold values, based on statistical analysis.

- 12) A Surpac block model was used for the estimate with a block size of 20m NS x 10m EW x 20m vertical with sub-cells of 5m x 2.5m x 5m.
- 13) Ordinary Kriging (OK) grade interpolation using Kriging parameters defined from directional variography was used to estimate block grades. The estimate was run in 2 passes using an orientated search ellipse with a first pass radius of 210m and a second pass radius of 300m.
- 14) The Mineral Resource was classified as Indicated and Inferred as a consequence of the geological and grade continuity defined by historic and recent drilling programs.
- 15) No assumptions have been made about the mining and processing methods in the current resources estimation.

#### **Notes on the Esuajah South resource estimate**

- 16) The Mineral Resource estimate for the Esuajah South gold Deposit of the Ayanfuri gold project was completed in May 2007 by Resource Evaluations Pty Ltd for Perseus Mining Ltd.
- 17) The Esuajah South deposit is located within altered Lower Proterozoic Biriman (2.17-2.18 billion years) granitoid. The Esuajah South granitoid had a relatively small surface outcrop, was about 200m long and 45m wide at the base of the oxide pit, and at least 80m wide at 200m depth. The granitoid appears to be pervasively mineralised (0.1g/t to 5g/t) with higher grades associated with sheeted quartz veining.
- 18) The drill database contains 41 Reverse Circulation ("RC") drill holes totaling 2,886m and 6 diamond holes totaling 1,391m and 14,000m of grade control sampling channels undertaken during mining. Sample recovery is considered to have been to industry standard for both RC and diamond cored drilling.
- 19) Pre 2006 RC drilling were routinely analysed for gold using a 0.5 kg 24hr bulk cyanide leach method. 2006 to 2007 RC drill samples were analysed by 1kg 24hr bulk cyanide leach method with the tails of all samples with assays over 0.5g/t being assayed by fire assay. Only the recovered grades of the bulk cyanide leach method were used in the resource calculation. 2006 to 2007 diamond drill samples were analysed by 50g fire assay method. Standards, spikes, blanks and repeat samples have been randomly submitted during all drilling programs.
- 20) The relative position of all drill-hole collars is survey controlled with each hole being surveyed or related back to the original mine grid using a total station theodolite. Holes are considered to be accurate to within 1m horizontally and 0.5m vertically. The surface topography of the Esuajah South deposit used for resource modeling was generated using lattice gridding of survey data points and is considered to be sufficiently accurate for the generation of Indicated and Inferred Mineral Resource estimates. Bottom-of-hole single shot surveys were generally a systematic part of the process of deeper percussion drilling at the Esuajah South prospect. However, the surveys were limited to dip measurements only. Acid etch methodology was used for 2006 and 2007 diamond core holes down hole surveys. The down-hole sample location data for the Esuajah South prospect is considered adequate to allow for the estimation of Indicated and Inferred Mineral Resources.
- 21) The existing Esuajah South pit was defined using a final volume survey.
- 22) The Esuajah South resource area extends over a strike length of 400m from 6080mN to 6480mN and includes the 280m vertical interval from surface at 160mRL to -220mRL.

- 23) The resource estimate database includes assay and lithological data compiled on drilling, logging and assaying of the samples recovered from the 41 RC and 6 diamond holes within and projected across, the 230m of strike of the Esuajah South deposit. Drilling was carried out along east-west fences which were nominally spaced at 40 meter grid north intervals and at 10 to 30 meter centers. All drill-holes were inclined at between 45° and 60° at grid west and east azimuths. The reporting of gold values used for plotting and grade estimation was the first bulk cyanide leach determination or, in its absence, the first fire assay determination presented by the laboratory.
- 24) Bulk densities have been adopted from the historic Ayanfuri database comprising 115 bulk oxide samples and 61kg of sulphide diamond drill core.
- 25) Wireframes were constructed using cross sectional interpretations based on geology or a 0.3g/t Au cut-off grade.
- 26) Samples within the wireframes were composited to even 1.0m intervals. A 10g/t high grade cut was applied to gold values, based on statistical analysis.
- 27) A Surpac block model was used for the estimate with a block size of 20m NS x 10m EW x 20m vertical with sub-cells of 5m x 2.5m x 5m.
- 28) Ordinary Kriging (OK) grade interpolation using Kriging parameters defined from directional variography was used to estimate block grades. The estimate was run in 2 passes using an orientated search ellipse with a first pass radius of 130m and a second pass radius of 250m
- 29) The Mineral Resource was classified as Indicated and Inferred as a consequence of the geological and grade continuity defined by historic and recent drilling programs.
- 30) No assumptions have been made about the mining and processing methods in the current resources estimation.