# QUARTERLY ACTIVITY REPORT – PERIOD ENDED 30 SEPTEMBER 2014

## ASX Release

**4 November 2014**


**SIGNATURE METALS LIMITED**

10 Woolshed Gully Drive
Mt Clear, Victoria, Australia


**ASX:SBL**

**Directors:**
Raymond Tan – Non-Executive Chairman
Peter Chen – Executive Director
Roland Selvanayagam – Non-Executive Director
Denis Clarke – Non-Executive Director

**Chief Executive Officer:**
Chris Gbyl

**Company Secretary:**
Catherine Officer

**Issued Capital:**
2,760 million shares


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## HIGHLIGHTS

- Updated Obenemase resource:

  **4.7Mt at 3.7g/t Au for 0.564Moz Au.**
- Revised resources at Konongo:

  **9.1Mt at 3.3g/t Au for 0.971Moz Au.**
- Snowden Mining Industry Consultants complete a Scoping Study of the Konongo Gold Project’s sulphide resources which indicates “reasonable prospects of economic extraction”:
  - Cutoff grades 0.5g/t (oxide), 0.7g/t (transition) and 1.0g/t (sulphide)
  - IRR 35%
  - NPV USD22.926M
  - Head grade: 3.48g/t Au
  - Mine Life: 6.75 years
  - Gold Price US$1,250/oz
  - Significant upside from non-included resources.
- A new east-dipping sulphide zone with potential strike length of over 700m identified at Obenemase.
- Shallow sulphide resource study commences.
- Tailings toll treatment arrangement under review.

# KONONGO GOLD PROJECT, GHANA

The Konongo Gold Project of Owere Mines Limited (Signature Metals Limited 70%) contains 16 known deposits along 12km of strike in the world class Ashanti Gold Belt in Ghana, 150km north of the capital, Accra (Figure 7). The Project consists of, a Mining Lease (749/03) and a Prospecting Lease (PL6/296) totalling 163km$^2$ (Figure 8).

The Konongo Gold Project covers portion of the regionally prospective western boundary of the Ashanti Belt (Figure 7). The Belt hosts numerous significant mesothermal lode gold deposits including those at Konongo.

## OVERVIEW

During September Quarter 2014, Signature Metals Limited continued to implement a strategic re-focus of the operation to produce an early cash flow and to bring forward the development of high grade shallow sulphide resources at the Obenemase and Boabedroo deposits.

Principal activities included:-

- A resource update on key deposits, including Obenemase A and B, Boabedroo North, South and South Extended, Aserewa, Apan and Akyenase by Snowden Mining Industry Consultants (Snowden).
- Delivery by Snowden of its Scoping Study based on the Obenemase and Boabedroo resources.
- Continued assessment, validation and revision of historic resources for additional resource updates.
- Review of the Tailings Treatment Project.

## SCOPING STUDY

Snowden completed a review of selected deposits at the Konongo Gold Project to support the resource designation and to provide guidance for project development. These deposits include Obenemase A and Obenemase B, the Boabedroo group of deposits (North, South and South Extended), Aserewa North and Aserewa South, Kwakawkaw, Apan and Akyenase. A Scoping Study completed by Snowden assessed the technical and economic merits of the Konongo Gold Project based only on the Indicated Resources of the Obenemase A, Obenemase B, Boabedroo North and Boabedroo South deposits. Inferred Resources were considered to provide upside potential, but were not included in the economic evaluation.

The Scoping Study concludes that "there are reasonable prospects of economic extraction", and that the Project has the potential to be developed as a profitable underground mining operation with a base case Internal Rate of Return (IRR) of 35% and a Net Present Value (NPV) of US$22.3 million at a 10% discount rate. The base case for the development of the predominantly sulphide resources and treatment through a refractory gold processing plant is based on a 3.48 g/t Au head grade, a gold price of US$1,250 per ounce and a mine life of 6.75 years.

Given the encouraging conclusions of the Snowden Scoping Study, Signature is now working on:

- Incorporation of additional significant drilling results, particularly at Obenemase A Lode and Obenemase R Zone that were not included in the Snowden resources. This will increase the resource estimates for both deposits.
- Assessment of options to increase the development head grade of potential mining operations (see "Obenemase A Lode shallow sulphide target" section of this report). This involves refining mineralisation models for Obenemase A and R, and targeting high-grade shoots.
- Assessment of the upside potential of deposits excluded by Snowden from the Scoping Study:
    - re-interpreting controls on mineralisation and upgrading targets based on detailed assessment .
    - including the unmined sulphide zones at Boabedroo.
    - upgrading the resource status of deposits to an Indicated Resource status where appropriate (Boabedroo South Extended, Aserewa South, Aserewa North, Kwakawkaw South, Kwakawkaw North, Apan and Akyenase).
    - undertaking a critical geological and data review of historic and currently downgraded resources to increase the global resource.

## EXPLORATION

During the quarter exploration focused on:

- Defining the high grade near surface sulphide shoots within the Obenemase and Boabedroo resources.
- Continued review of historic resources to increase the economic sulphide potential.

All drilling ceased in mid-May and no new drilling results were returned during the September Quarter.

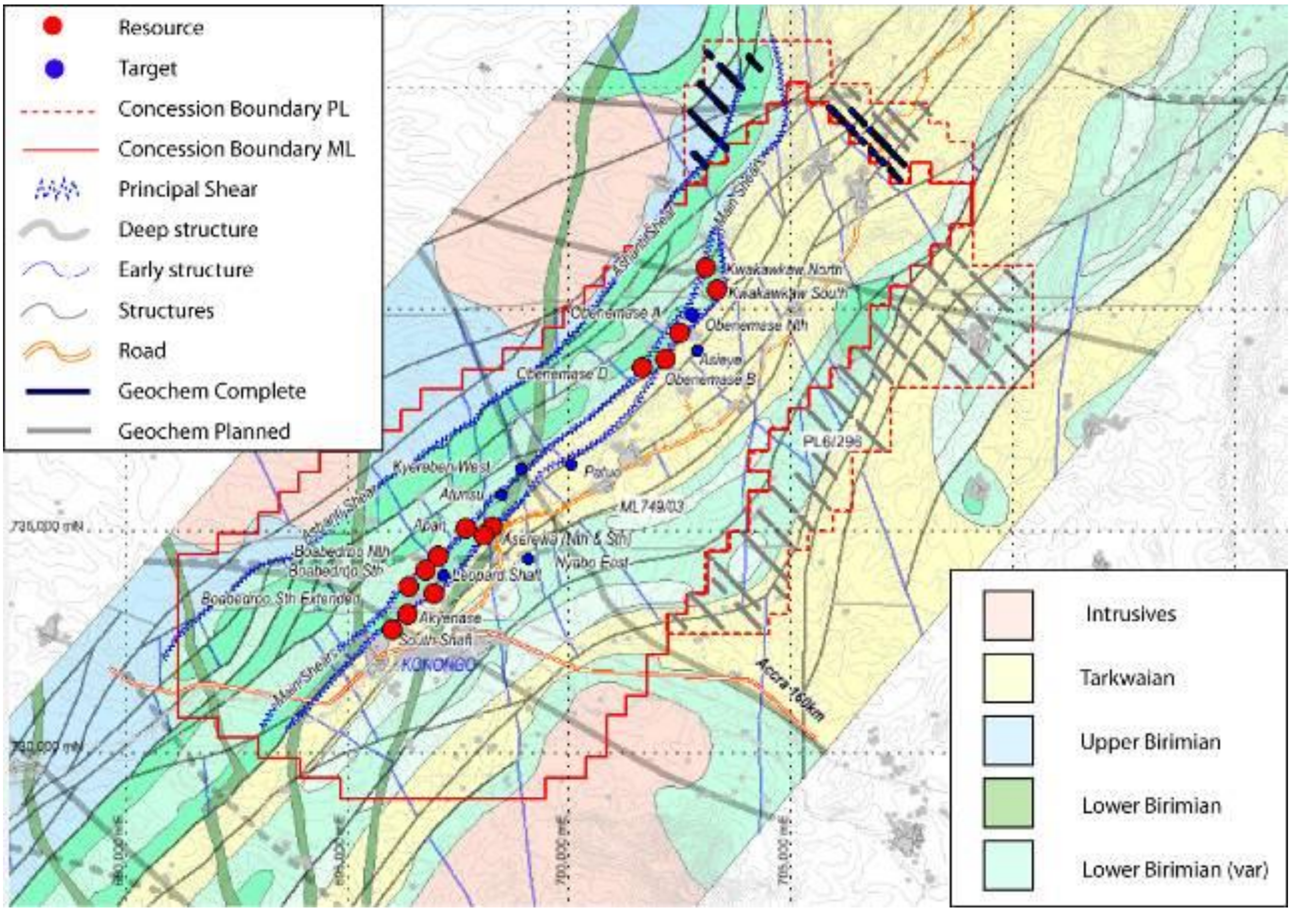


**Figure 1. Konongo Prospect Location**

## Obenemase

Historically, the Obenemase Deposits were mined underground and from two contiguous oxide open pits - Obenemase A Pit and Obenemase B Pit. Underground workings extended to a depth of 150m and targeted auriferous quartz reefs and some refractory sulphide-hosted gold mineralisation. Current exploration is focused on the sulphide-hosted mineralisation, which occurs adjacent to the quartz reefs or as discrete high grade sulphidic shoots. Mineralisation control is mostly structural, but is hosted predominantly within volcaniclastic siltstone units. Mineralisation occurs as semicontinuous, roughly tabular sheets containing moderately plunging, structurally controlled, high grade shoots. The siltstone host is folded with a plunge of 40-60 degrees northeast and is steeply northwest-dipping. The east-dipping short limb (of second-order folds) hosts an additional phase of mineralisation. The mineralisation is associated with and truncated to the southeast by a multiply sheared graphitic shale. Gold mineralisation is generally highest grade and thickest adjacent to the shale or where second-order folds occur.

The mineralisation assemblage is silica - ankerite - arsenopyrite +/- albite +/- sericite+/- biotite +/- pyrite +/- pyrrhotite. Free gold in quartz occurs rarely. Sulphide mineralisation occurs mainly within siltstone horizons in the host lithology and is interpreted to postdate the main structural event.

A revised resource for the Obenemase Deposits has been estimated following a full review of data available to 31 March 2014. The resource prepared by Snowden totals **4.7Mt at 3.7g/t Au for 0.564Moz Au.** A complete list of the revised resources is in Table 2 and reporting and classification criteria are in Table 1.

## Obenemase A Lode

Obenemase A Lode is characterised by sub-vertical mineralisation proximal to the sheared boundary between volcaniclastic sediments and banded siltstones. During the quarter additional data (post 31 March 2014) were reviewed and preparations made to revise the Snowdens resource estimate. Detailed interpretation indicates mineralisation is open down-dip and down-plunge over a 500m strike length below the 300m vertical depth, limit of drill testing. (Figure 2).

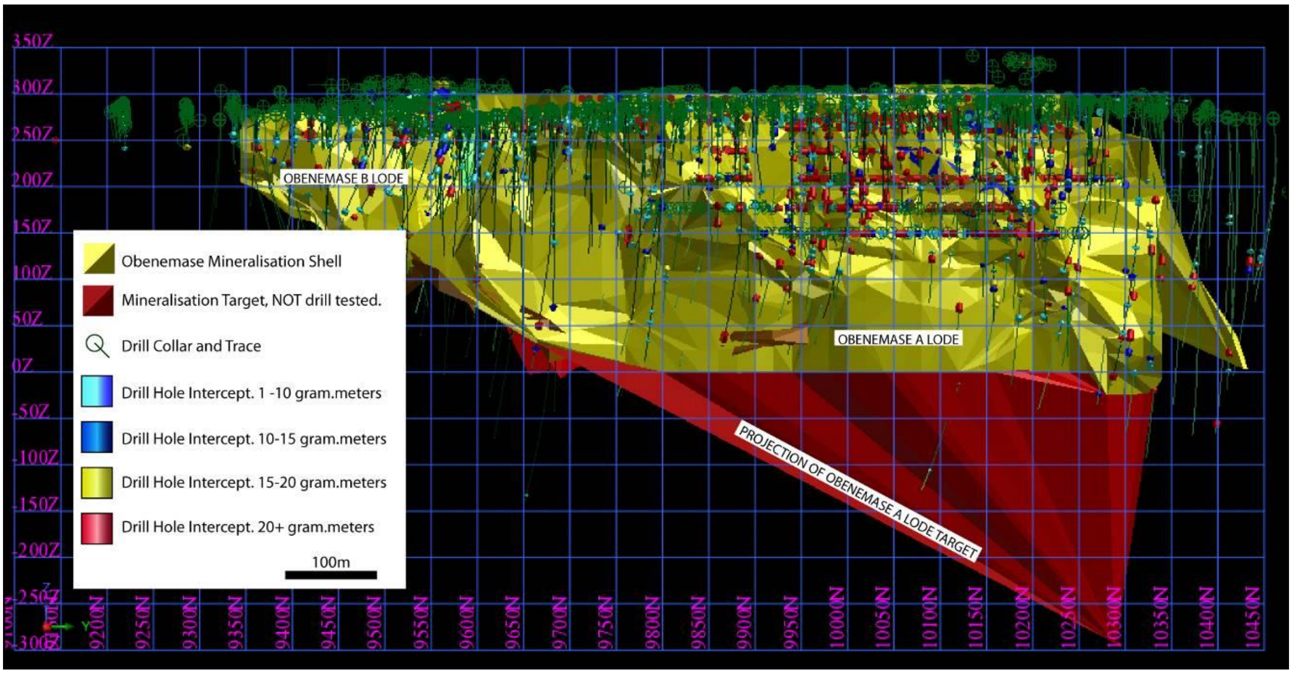


**Figure 2. Obenemase A Lode Long Section looking grid west**

Re-interpretation and revision of the data available for the Obenemase deposits has identified a new potential zone of mineralisation, **Obenemase A Lode West**, which is 100m west of, and trending roughly parallel to, the Obenemase A Lode structure (Figure 3). Available drilling suggests the zone may include a number of mineralised shoots. Notably, the mineralisation dips steeply east and intersects Obenemase A Lode in the north and the Obenemase B Lode in the south. Obenemase A Lode West mineralisation has not been mined of drilled historically. It is interpreted to extend to the near-surface, with a strike length potentially exceeding 700m.

Obenemase A Lode West is interpreted to be structurally controlled by east-dipping graphitic mylonites which probably represent late reactivated shears such as are observed to control mineralisation associated with many orogenic gold deposits in the Ashanti Belt (e.g. Obuasi, Prestea, Bogosu). The mylonites are characterised by graphitic content and have been identified in drill core at Obenemase B Lode and Obenemase A Lode North. The mylonite shears are interpreted to truncate the Obenemase A Lode in the north. Planning has been completed to test the Obenemase A Lode West target.

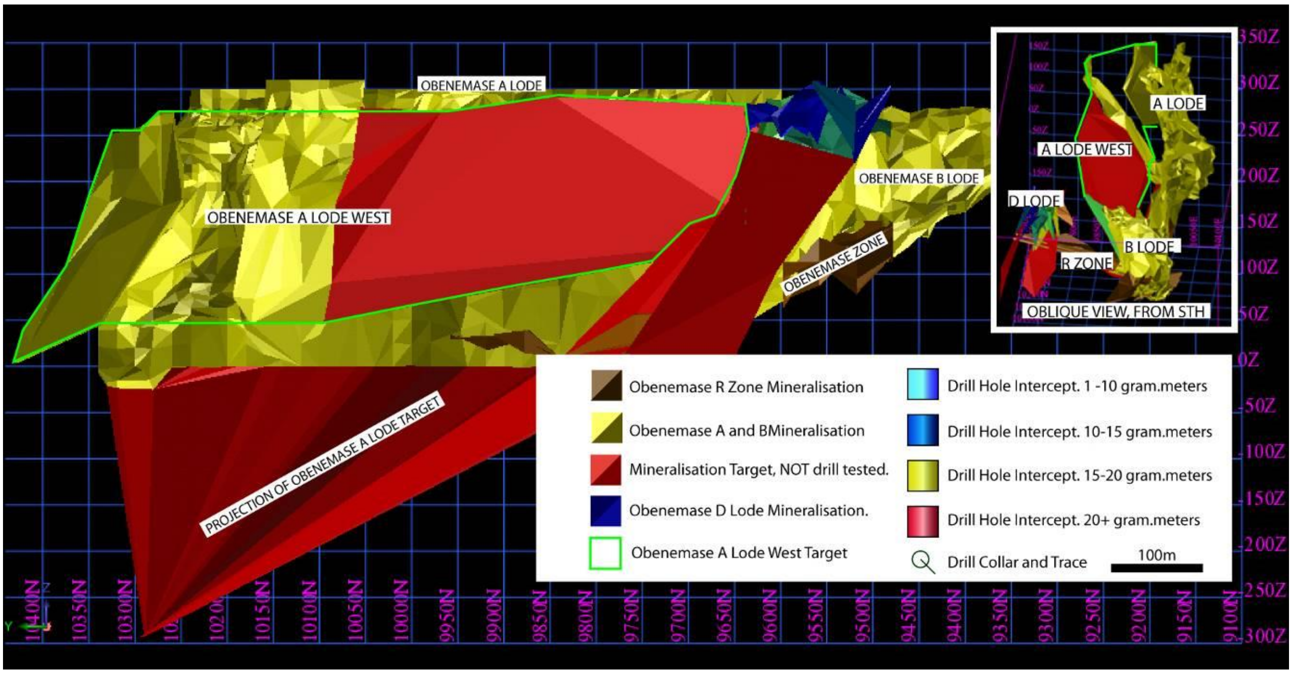


**Figure 3. Obenemase A Lode West Long Section, looking grid east (A and B Lodes at the back)**

## Obenemase A Lode shallow sulphide development target

The Obenemase A Lode mineralisation remains open down dip (below 300m vertical) and down plunge to the north. Several significant drill intercepts are not included in the Snowden resource estimate. The estimate will be updated over the coming months and will be based on the new detailed modelling of the high grade zones and the better known deposit morphology. The Obenemase A Lode West mineralisation is largely untested and is open at shallow depths along trend and down-dip.

The Obenemase A Lode has a continuous zone of high grade mineralisation extending from beneath the pit floor of the existing pit to approximately 50-120m depth over a 400m strike length. The zone has been selected for detailed study. The geology of the zone and controls of mineralisation have been reviewed in detail. It is concluded that the zone may provide relatively high grade ore in the initial stage of development of the Obenemase A Lode.

Conceptually, the high grade zone might be accessed by a pit cut back or low cost underground development. A high grade concentrate could be produced by a low cost addition to the existing processing plant.

## Obenemase R Zone

The Obenemase R Zone mineralisation occurs as a northeast pitching, roughly tabular lode splaying from the Obenemase B Lode zone about 150m beneath surface. The mineralisation has been traced 550m along strike and is up to 10m thick. The Obenemase R Lode is interpreted as a linking structure between the dominant northeast trending shears (the A Lode trend and the D Lode trend), which are 300m apart. The mineralisation is closely associated with a short limb of a second order fold, and is thicknest where the mineralisation intersects northeast trending structures. The Obenemase R Zone remains open down pitch, and potentially to the west of the Obenemase D Lode trend. It does not extend east of the Obenemase A Lode shear. The "linking structure" model for the Obenemase R Zone suggests potential exists for similar lodes beneath the Obenemase R Zone forming "stacked" or "laddered" deposits. The linking structure model may be applicable to the Obenemase North mineralisation and the Kwakawkaw mineralisation (Figure 4, Figure 5).

A number of drill intercepts in Obenemase R Zone are not incorporated into the Snowden resource estimate (Table 2), and potential repeats of the mineralisation at depth have not yet been tested with drilling. The mineralisation remains open down-pitch and to the west and trends within 50m of the Obenemase A Shallow Sulphide development target.

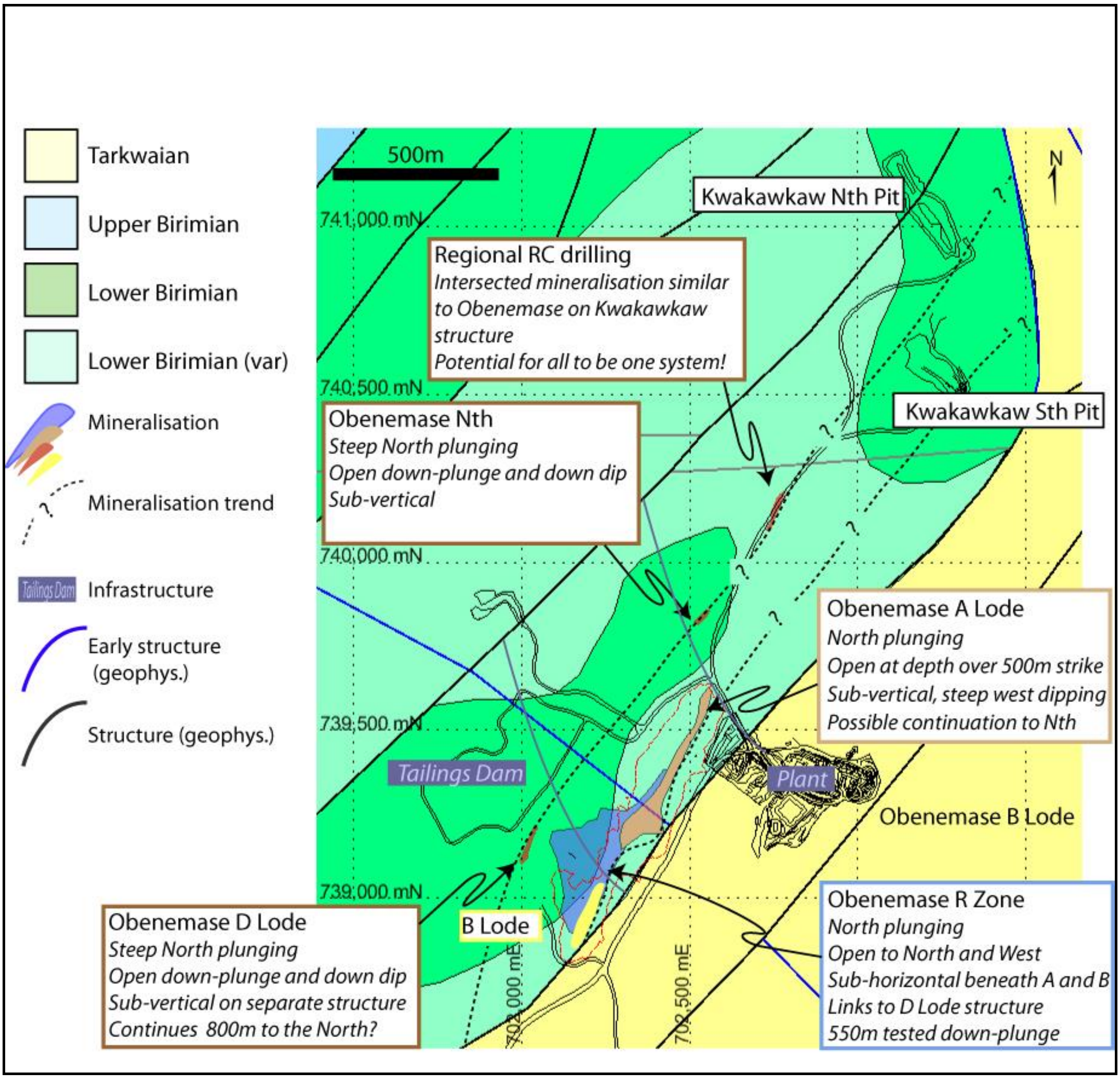


**Figure 4. Obenemase and Kwakawkaw corridor - R Zone and Kwakawkaw mineralisation have similar orientations.**

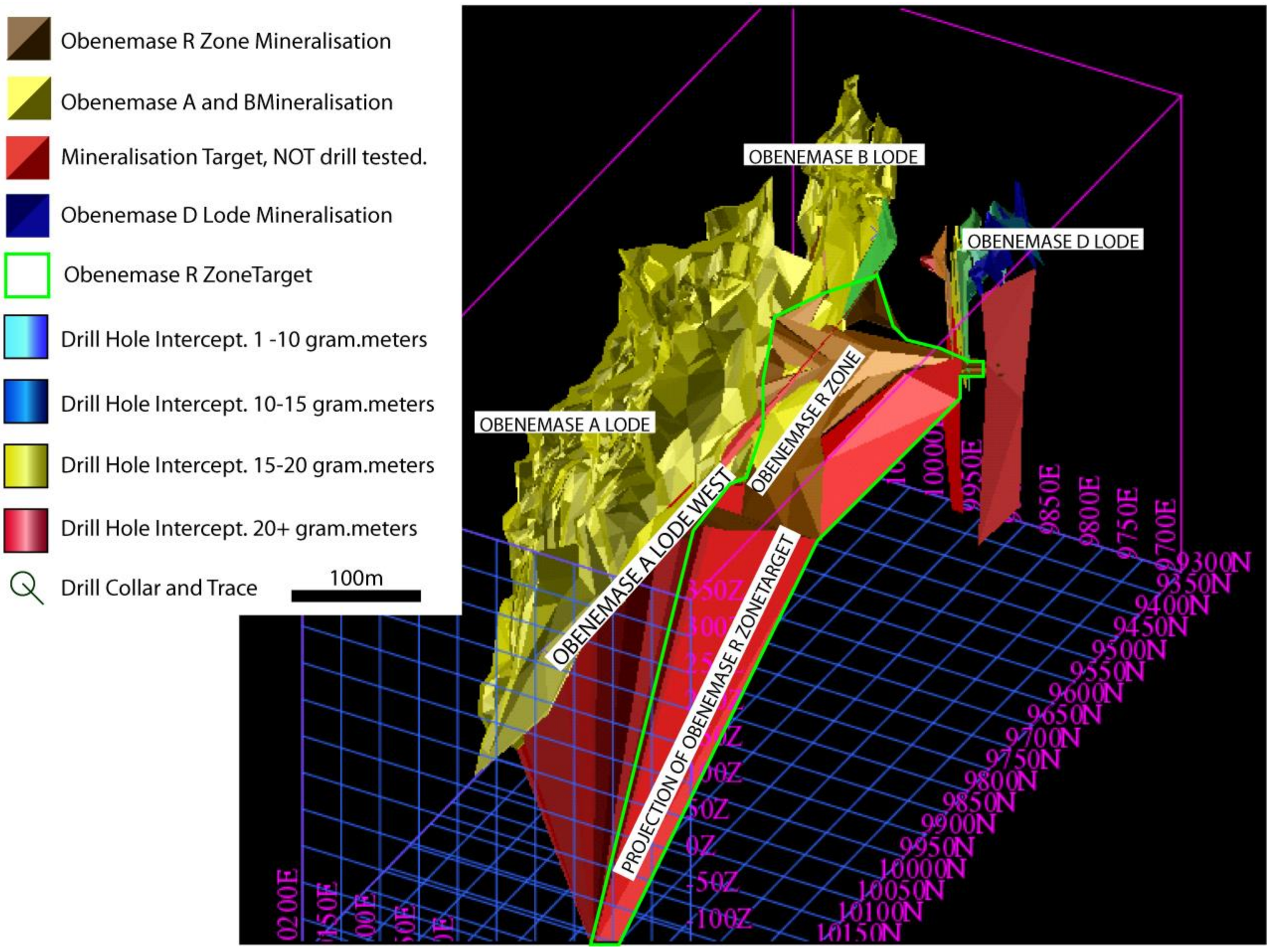


**Figure 5. Obenemase R Zone extent and targets, looking southeast**

## Obenemase D Lode

Obenemase D Lode, based on historic near-surface drilling, is interpreted as a short strike-length (~100m) structurally controlled mineralised zone.  The mineralisation is hosted in a shear structure parallel to, and 300m northwest of, the structure controlling the A Lode and B Lode mineralisation. The mineralisation extends from surface to 160m vertical depth (Figure 6). Previous mineralisation and geological models have recently been revised, and indicate a tabular, steep-dipping zone parallel to the shear and a zone of stacked, steeply north plunging ore lenses associated with parasitic folds. The mineralisation is open down-dip, down plunge and, locally, up dip.

The Obenemase D Lode trend may be traced to the northeast as a structure dislocating the Kwakawkaw mineralisation, some 2,500m to the northeast. Two other mineralisation targets have been identified along this trend (Figure 4).

The Obenemase D Lode has a surface trace of 100-200m. The structure that controls the mineralisation is interpreted to be over 2,000m long, and has good potential to include multiple mineralised zones similar to Obenemase D Lode.

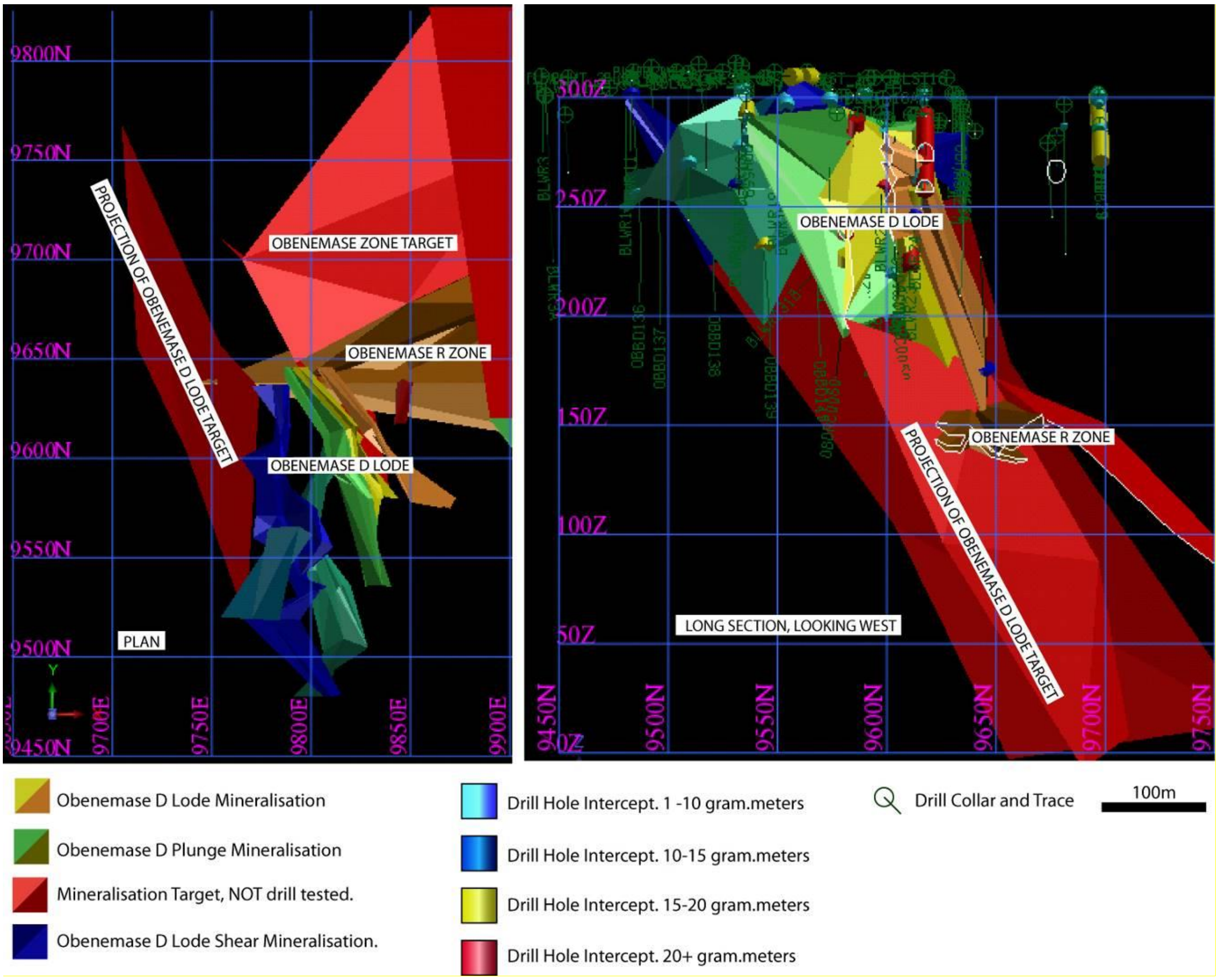


**Figure 6. Obenemase D Lode Plan and Long Section**

## Other Targets

Re-evaluation of geology and mineralisation of the Boabedroo Deposits continues. Work has indicated the presence of encouraging gold grades in sulphide mineralisation which is interpreted as forming a halo to historically mined quartz vein-hosted mineralisation. Grades range from 3-4 g/t Au, with some significantly higher grade intercepts. Intercept thicknesses are from 1-10m down hole, generally occurring in the hanging wall of the main controlling structure. Two zones of sulphide halo mineralisation have been identified trending for 200-300m along strike.

Sulphide mineralisation occurring beneath the Boabedroo South Extended pit has been reviewed, taking advantage of a significant increase in data from digitised historic underground data. The mineralisation has been remodelled and geological re-interpretation is on-going.

A prospective zone occurs to the north of Boabedroo North, along trend towards the historic Apan pit. The mineralisation has been identified from historic underground channel sampling (level 4 at a depth of 150m), and remains open in all directions. Historic maps and structural data indicate the mineralisation may be the continuation of the Apan ore shoots rather than Boabedroo mineralisation.

Structural data for the Kwakawkaw resource and Patuo target have been consolidated and re-interpreted to improve mineralisation and geological models. Similar work has commenced at the Atunsu target. Campaign data validation and subsequent revision of the geology at all resources and prospects continues.

Historical data review and validation continues for Aserewa North and South, Kwakawkaw, Ashanti North, Apan and Akyenase prospects.

A 1,300 point soils program to infill the gaps in the geochemistry database over Kurofa is ongoing. To date, 501 samples have been collected on a 30 x 300m grid over the interpreted northern continuation of the mine sequence, and other identified structures. No results are yet available.

## TAILINGS TREATMENT PROJECT

The toll treatment of tailings option is under review. There are substantial tailings available within trucking distance of the OML facilities to which title must be obtained, approvals granted for extraction and haulage and, for OML, the processing and disposal of such material. To date B&C have been unable to demonstrate title to any tailings material, nor the subsequent approvals. As a result, the Company is in the process of terminating this agreement with B&C..

## CORPORATE

The Kurofa Prospecting concession has been revised to conform to the graticular cadastre. A compulsory area reduction of 50%, which has been stalled during the conversion process, would reduce the prospecting licence to $32km^2$.

Chris Gbyl
Chief Executive Officer
**SIGNATURE METALS LIMITED**

**Table 2 Snowden Resources, Owere Mines, 31 March 2014.**

| | Inferred | | | Indicated | | | Total | | |
|---|---|---|---|---|---|---|---|---|---|
| **Deposit** | **Tonnes** | **Grade** | **Ounces** | **Tonnes** | **Grade** | **Ounces** | **Tonnes** | **Grade** | **Ounces** |
| Apan | 731,000 | 2.30 | 55,000 | - | - | - | 731,000 | 2.30 | 55,000 |
| Aserewa | 409,000 | 3.30 | 43,000 | - | - | - | 409,000 | 3.30 | 43,000 |
| Boabedroo Nth | 285,000 | 3.60 | 33,000 | - | - | - | 285,000 | 3.60 | 33,000 |
| Boabedroo Sth | 447,000 | 2.20 | 32,000 | - | - | - | 447,000 | 2.20 | 32,000 |
| Boabedroo Sth Extended | 1,841,000 | 3.00 | 179,000 | - | - | - | 1,841,000 | 3.00 | 179,000 |
| *Obenemase A and B (**oxide**)* | *9,000* | *2.90* | *1,000* | *164,000* | *3.70* | *18,000* | *173,000* | *3.70* | *19,000* |
| *Obenemase A and B (**trans**)* | *22,000* | *3.00* | *2,000* | *325,000* | *4.10* | *42,000* | *347,000* | *4.00* | *44,000* |
| *Obenemase A and B (**sulphide**)* | *1,339,000* | *3.60* | *154,000* | *2,848,000* | *3.80* | *347,000* | *4,186,000* | *3.70* | *501,000* |
| Obenemase D | 725,000 | 1.60 | 34,000 | - | - | - | 725,000 | 2.10 | 65,000 |
| ***Totals*** | ***5,808,000*** | ***2.85*** | ***533,000*** | ***3,337,000*** | ***3.79*** | ***407,000*** | ***9,144,000*** | ***3.30*** | ***971,000*** |

*Cutoff grades of 0.5g/t for oxide, 0.7g/t for transition and 1.0g/t for sulphide material.*

*The information in this statement is drawn from Qualified Persons Reports ("**QPRs**") dated 31 March 2014. Note that previously estimated resources for Kwakawkaw and Akyenase have been excluded from this Snowden estimate and will be updated for inclusion in the next QPR report.*
*The QPR reports include:*

a. *Annual Qualified Persons Report for the Obenemase A and B Lodes, Konongo Gold Project, Ghana, Year Ended 31 March 2014*
b. *Annual Qualified Persons Report for Selected Deposits, Konongo Gold Project, Ghana, Year Ended 31 March 2014*

*Reports are available at http://www.liongoldcorp.com/resources-and-reserves and the estimates have been prepared and classified in accordance with the guidelines of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves prepared by the Joint Ore Reserves Committee of the Australasian Institute of Mining and Metallurgy, Australian Institute of Geoscientists and Minerals Council of Australia, December 2012 (the "**JORC Code 2012**"). Discussion of reporting criteria are included as Table 1.*

*The information in this statement which relates to the Mineral Resource is based on information compiled by Dr. Simon C. Dominy who is an employee of Snowden Mining Industry Consultants and a Fellow of the Australasian Institute of Mining and Metallurgy. Dr. Dominy has sufficient relevant experience to the style of mineralization and type of deposit under consideration and to the activity for which he has undertaken to qualify as a Competent Person as defined in the JORC Code (2012).*

*Dr. Dominy was supported by the geologist Dr. Belinda van Lente, who is full time employee of Snowdens Mining Industry Consultants and is a member of South African Council for Natural Scientific Professions. Dr. van Lente has sufficient relevant experience to the style of mineralization and type of deposit under consideration and to the activity for which she has undertaken to qualify as a Competent Person as defined in the JORC Code (2012).*

*The information in this release which relates to Exploration Results is based on information compiled by Mr. Bill Reid. Mr. Reid 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 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore*

*Reserves'. Mr. Reid is an employee of LionGold Corporation and consents to the inclusion in this release of the matters relating to Exploration Results in the form and context in which it appears based on the information presented.*

***FORWARD LOOKING STATEMENTS:***

*This release contains certain forward-looking statements. These forward-looking statements are based on management's expectation and beliefs concerning future events. Forward-looking statements are necessarily subject to risks, uncertainties and other factors, some of which are outside the control of Signature Metals Limited that could cause actual results to differ materially from such statements.*

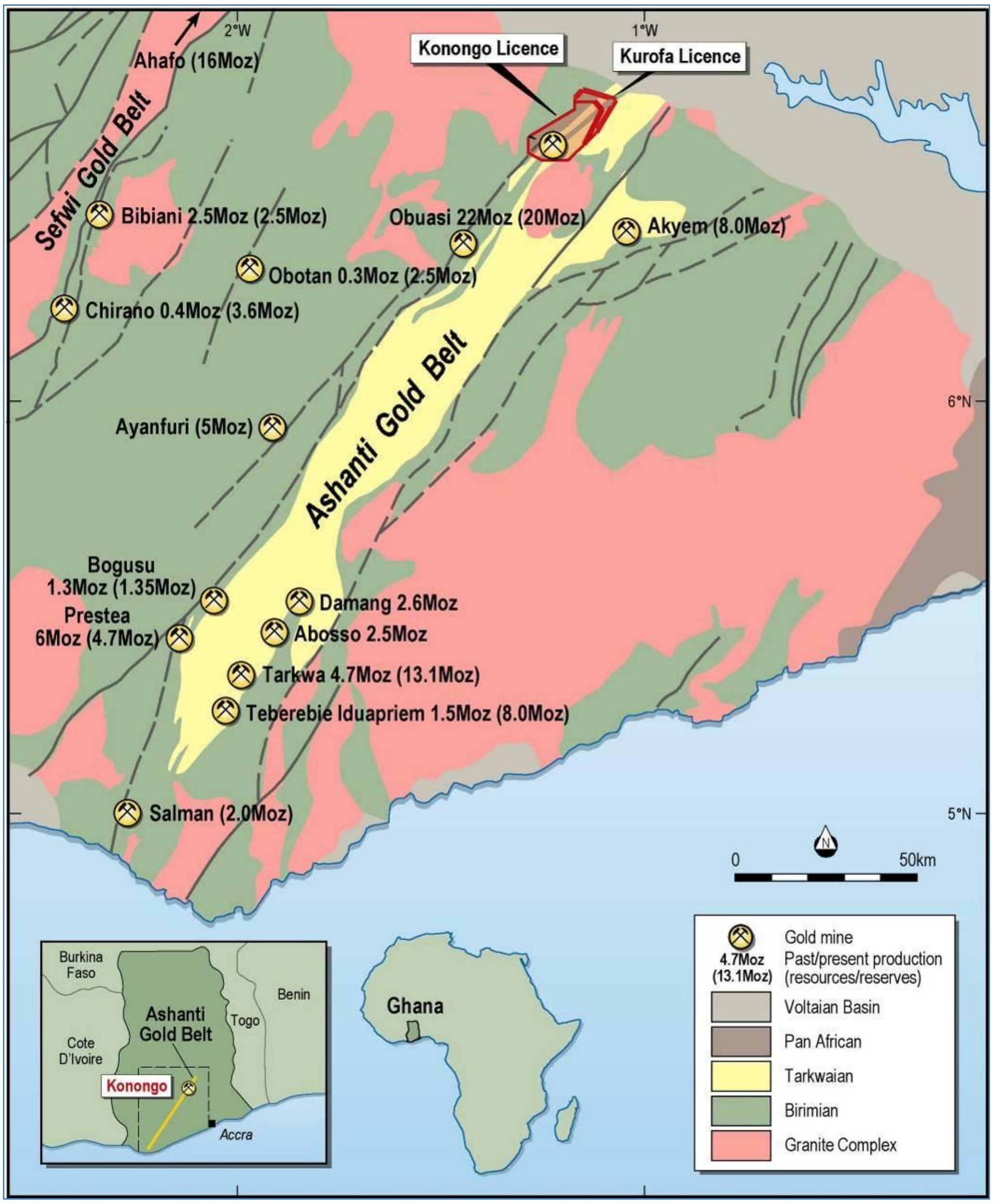


**Figure 7. OML Project Location**

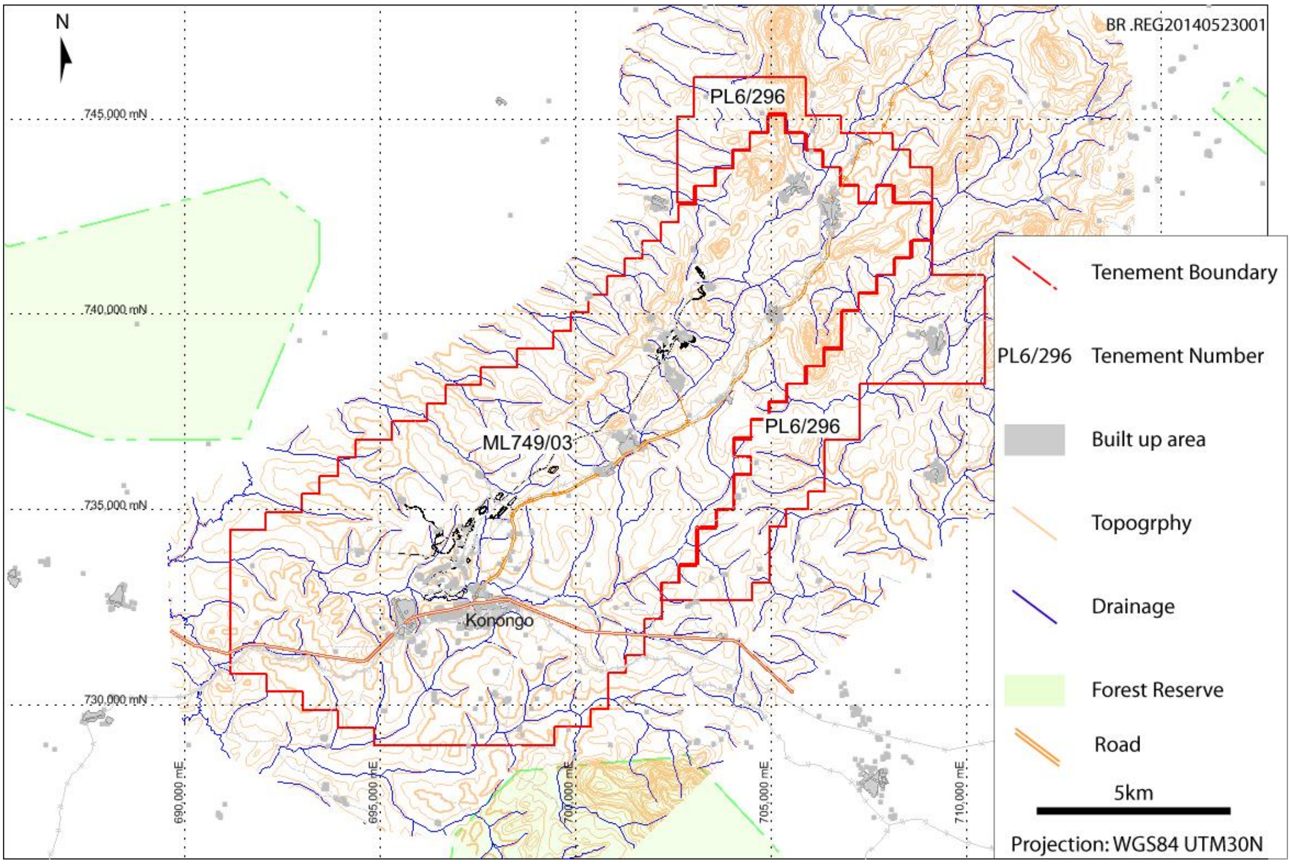


**Figure 8. OML Tenements, Konongo Gold Project**

**Table 1.**

| Table 1 report – Section 1 | Konongo Gold Project, Signature Metals |
|---|---|
| Sampling Techniques and Data | JORC 2012 |

(Criteria in this section apply to all succeeding sections.)

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| ***Sampling techniques*** | • *Nature and quality of sampling (e.g. cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc.). These examples should not be taken as limiting the broad meaning of sampling.*<br>• *Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.*<br>• *Aspects of the determination of mineralisation that are Material to the Public Report.*<br>• *In cases where 'industry standard' work has been done this would be relatively simple (eg 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (eg submarine nodules) may warrant disclosure of detailed information.* | • RC sampling is taken as 1m intervals collected in-line with a cyclone. Samples are split with a 3-tier riffle splitter to generate a representative 1/8th sample for submission. Certified standards and Blanks (largely sourced from AMIS, South Africa) are inserted into the sample sequence – at least one every 20m. Duplicates are resplits of the 1m sample. All RC chips are geologically logged, and samples from each metre are stored on site in chip trays. Logging and chip information is used to put returned assays into geological context. Chain of custody is maintained from the field to the laboratory.<br>For RC drilling, 2 and 3 kg is submitted to a certified laboratory. A 60gram charge is pulverised for fire assay. Internal lab checks are reported to the company.<br>• Diamond drilling is executed as Diamond core tails on RC pre-collars. The transition to core drilling is based on interpreted geology and expected mineralisation depth. Pre-collars are generally not sampled. Core samples are taken based on changes in the observed geology, alteration and mineralisation. Laboratory samples are half-core, taken with a manual core saw. Certified standards and blanks are inserted into the within the sample sequence, Standards, one of each is included within each 20m of sampling. The remaining half-core is kept on-site for reference and interpretation. Chain of custody is maintained from the field to the laboratory.<br>Minimum samples for Diamond Core are 0.3m; maximum sample length is 1.0m. Samples are submitted to a certified laboratory. Samples Duplicates are indicated in the sample sequence, and are taken as a second split from the pulverized half-core. Samples are assayed by fire assay with a 60 gram charge. Additional check samples are inserted by the laboratory - data that is made available to the company. |
| ***Drilling techniques*** | • *Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).* | • RC Rigs on-site are contracted from Global Exploration Services (GES) and include SCHRAMM 480 and SCHRAMM 685. RC bit is 4 ¾ inch, face sampling hammer.<br>• Diamond Rigs are CORTECH-2010 rigs contracted from Global Exploration. Standard tube HQ and NQ are used, NQ is the dominant core size through mineralisation. |

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| ***Drill sample recovery*** | • *Method of recording and assessing core and chip sample recoveries and results assessed.*<br>• *Measures taken to maximise sample recovery and ensure representative nature of the samples.*<br>• *Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.* | • RC chip recoveries are qualitatively and quantitatively recorded. Sample condition (wet/dry/contaminated) is recorded. Weight of dry samples is recorded. Holes are prepared to ensure the hole remains open. Data is recorded in the geodatabase (migrated to Datashed). Auxiliary compressors are on-site to maximize the potential to return dry samples. Holes are cleared at the end of each rod and the cyclones are cleaned at the end of each hole or as required. Methodology does not permit accurate assessment of bias due to fraction loss.<br>• Diamond Core recovery is based on the length of re-assembled core from each core run. Recoveries are recorded in the geodatabase (Datashed). Recoveries are generally in excess of 90%. |
| ***Logging*** | • *Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.*<br>• *Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc.) photography.*<br>• *The total length and percentage of the relevant intersections logged.* | • RC chips are logged by qualified geologists who have experience on the Project (or equivalent systems in other projects). Geology is logged based on 1m intervals. Logging is both qualitative (lithology, alteration, mineralisation, oxidation state) and quantitative observations (geology, alteration and mineralisation boundaries). Information is recorded using LogChief software, and entered into the geodatabase.<br>• Core logging is both qualitative (lithology and alteration and mineralisation intensity, oxidation state) and quantitative observations (structure, geological and alteration and mineralisation boundaries), recorded in LogChief software, and entered into the geodatabase. Geotechnical data (recoveries, SGs and density, fractures) are quantitatively logged. Structure is qualitatively and quantitatively logged (alpha/beta measurements) and/or cradle readings for oriented core). Wet and dry photography is taken for all drill core.<br>• **100%** of Diamond Core is geologically, structurally, geotechnically logged and photographed.<br>• **100%** of RC drilling is geologically logged.<br>• Logging and geotechnical logging for RC and Diamond Drilling is considered to be of sufficient detail to support Mineral Resource estimation, mining studies and metallurgical studies. |
| ***Sub-sampling techniques and sample preparation*** | • *If core, whether cut or sawn and whether quarter, half or all core taken.*<br>• *If non-core, whether riffled, tube sampled, rotary split, etc. and whether sampled wet or dry.*<br>• *For all sample types, the nature, quality and appropriateness of the sample preparation technique.*<br>• *Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.* | • RC sampling is taken as 1m intervals collected in-line with a cyclone. Samples are split with a 3-tier riffle splitter to generate a representative 1/8$^{th}$ sample for submission.<br>• Diamond core is half-core prepared with a manual core saw. The methodology preserved the orientation line. Sampling of half-core is taken as alternate halves for each sample. Samples are a minimum of 0.3m and a maximum of 1.0m. Intervals are based on geology, alteration and mineralisation observed.<br>• Sample preparation for both RC and Diamond Drilling includes weighing, drying, crushing to 70% -2mm, split of 250g and pulverize to better than 85% passing 75 micron (regarded to be industry standard for this style of mineralisation).<br>• SOPs (controlled documentation) for sample preparation, sample collection and sample submission are held on site. Staff training is implemented and reviewed. A number of SOPs |

| Criteria | JORC Code explanation | Commentary |
| --- | --- | --- |
| | • *Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second-half sampling.*<br>• *Whether sample sizes are appropriate to the grain size of the material being sampled.* | remain pre-sign-off, but all are in place and in use.<br>• Analysis of duplicate data taken from RC and core sampling indicates that sample size is appropriate for the grain size and nature of the mineralisation being sampled. |
| ***Quality of assay data and laboratory tests*** | • *The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.*<br>• *For geophysical tools, spectrometers, handheld XRF instruments, etc., the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.*<br>• *Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.* | • Gold grades are determined at ALS Kumasi for ore grade Au by fire assay and AAS using a 60 gram nominal sample weight. Method precision is reported by the lab as +/- 10%, and the reporting range is 0.01-100ppm. The technique produces a total result.<br>• No geophysical techniques are used.<br>• Quality control includes the insertion of certified reference materials (standards and blanks) into the sample sequence by the company. Duplicates are generated from field samples. The laboratory inserts check samples into each work order and reports the results. The laboratory monitors and reports milling statistics.<br>• Regression for duplicates is 0.8083- repeatability is good.<br>• No new assays were returned during the Quarter. Historic CRM data returned throughout the program does not show a systematic bias. Minor calibration drift is observed in some standards. Blanks checks are statistically sound. Precision is appropriate. No material bias is observed. $R^2 = 0.9825$ |
| ***Verification of sampling and assaying*** | • *The verification of significant intersections by either independent or alternative company personnel.*<br>• *The use of twinned holes.*<br>• *Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.*<br>• *Discuss any adjustment to assay data.* | • Documented verification of intersections has not been completed. It will form a part of a scoping study review currently in progress. Grades, however, correlate to qualitative observation of alteration and mineralisation in samples.<br>• Twinned holes have not been drilled.<br>• Data is stored as electronic and paper copies. Electronic data is stored in its source format, both on on-site servers and by the service provider. On-site servers are backed up weekly. Geological sampling data is entered into a Datashed database, which includes proprietary data validation checks to ensure field sampling information is correct. Returned assay data are stored as certified PDF copies and imported from text files provided by the laboratory. Certified QAQC files are also provided by the laboratory as PDF and text files.<br>• No adjustments are made to the assay data. |
| ***Location of data points*** | • *Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.* | • Collar positions are determined with a TOPCON DGPS. Down hole surveys are captured using an NQ Ori Kit 800. An orientation is taken every three metres and reliability is gauged on the number of subsequent reading for which the core orientation can be extrapolated down hole. RC and Diamond core surveys use a Proshot Dual (CTKIT100) unit taken on 30m intervals down hole. |

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| | • *Specification of the grid system used.*<br>• *Quality and adequacy of topographic control.* | • All reported results are reported in WGS84 UTM30N.<br>• Mining related data is captured with Differential GPS, including mine workings, locations and required topography.<br>• Regional DTM is from GeoEye, with X and Y accuracy of 0.5m and Z accuracy of 4m. The survey was captured in December 2012. More accurate DTMs are generated using a Total Station, which has millimetre precision. |
| ***Data spacing and distribution*** | • *Data spacing for reporting of Exploration Results.*<br>• *Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.*<br>• *Whether sample compositing has been applied.* | • Regional RC collars are spaced on 40m section spacing and target mineralisation intercepts at 30m and at 50m vertical depths. The drilling follows up on regional Aircore drilling which is spaced on 300m, 160m or 80m line spacing. The section spacing is appropriate to assess and interpret geology and mineralisation. Drilling azimuths are generally oriented toward an azimuth of 136 degrees, perpendicular to the regional fabric, and dipping at -60 degrees. Where increased geological and mineralisation control is established, azimuths and dips are adjusted for each individual target.<br>• Diamond Drilling is also based on 40m line spacing, closed to 20m where continuity of geology or mineralisation is insufficient to generate appropriate geological and grade continuity for Mineral Resource estimates. At Obenemase, hole azimuths are generally at 120 or 300 degrees, perpendicular to the dominant local orientation. Dips vary based on the orientation of the target mineralisation. Data generated is consistently appropriate for Inferred Mineral Resource classification.<br>• The maximum sample interval for RC and Diamond Drilling is 1m. Reported results are composited. Composites are required to return a weighted average grade greater than 1g/t, include no more than 2m of consecutive internal dilution no external dilution. |
| ***Orientation of data in relation to geological structure*** | • *Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.*<br>• *If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.* | • First pass RC drilling of regional prospects includes scissored holes to minimize the potential for biased drill orientations. Trenching and/or dozer cuts are used to assess the fabric of the in-situ geology and further constrain program hole orientation.<br>• Diamond Drilling targeting well-tested historical mineralisation is oriented to best test the mineralisation, within the constraints of possible surface collar locations. The potential of drilling down-dip of mineralisation is assessed based on interpretation of ore geometries and the orientation of the dominant fabric in recovered core.<br>• No bias has been recognized from the orientation of drilling data. |
| ***Sample security*** | • *The measures taken to ensure sample security.* | • Drill sites have allocated security personnel. Samples are removed from the field to the site bag farm, which also has allocated security personnel. Samples taken from site are signed-off by the driver sent from the laboratory with required sample submission documents. Sample receipts are emailed to the company on receipt of the samples at the laboratory. |
| ***Audits or reviews*** | • *The results of any audits or reviews of sampling techniques and data.* | • No external audits have been conducted. |

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| Table 1 report – Section 2 | Konongo Gold Project, Signature Metals |
| Reporting of Exploration Results | JORC 2012 |

(Criteria listed in the preceding section also apply to this section.)

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| ***Mineral tenement and land tenure status*** | • *Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.*<br>• *The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.* | • The Konongo Gold Project (Signature Metals 70%) comprises two leases totalling 195km$^2$, a Mining Lease (749/03) and a Prospecting Lease (PL6/296). All work during the Quarter was conducted within the Mining Lease, which is valid through 2023. There are no known physical material issues.<br>• The mining lease is valid through 2023. The 2014 operating licences for the ML and PL have not been delivered as at the time of submission. Both are submitted. There are no known impediments to the ML. The PL licence is conditional on acceptance of the annual report submitted in June 2014.<br>• Tenements are presented as Figure 10. |
| ***Exploration done by other parties*** | • *Acknowledgment and appraisal of exploration by other parties.* | • Operating since 1903, extensive underground exploration was undertaken throughout the life of the Konongo mines but few records of this work have been preserved. Similarly the records of systematic surface exploration are also fragmentary.<br>• Geophysical techniques were used for prospecting as early as 1935 and have continued to be used up to the present day, including regional VTEM and heli-magnetics flown by Fugro in 1995.<br>• Geochemical surveys have been an effective tool in locating mineralisation. In the early 1950's a large, detailed geochemical survey was completed on the concessions. A geochemical sampling programme commenced in November 1990 based on sample grid of 800 m by 30 m. Polymetallic soils were carried out in the 1970's.<br>• SCML commenced exploration on the concession in 1987, initially to assess the oxide ore resources in the Obenemase A deposit.<br>• With mining having commenced in 1988, regional exploration was curtailed and exploration focused on defining further mineable resources.<br>• In 1991, diamond drilling below the Obenemase A pit indicated the persistence of sulphide mineralisation. Further holes were drilled in 1992 and 1993 by SCML to provide sufficient control for resource assessment of the sulphide mineralisation.<br>• OGM carried out a number of exploration programs from 1994 to 1999 within the Konongo Mining Lease, and the adjacent Kurofa Prospecting Lease, concurrent with open pit mining at Boabedroo, Apan, Atunsu, Aserewa, and Obenemase.<br>• During 1998, all known exploration and development information was sorted, validated |

| Criteria | JORC Code explanation | Commentary |
| --- | --- | --- |
| | | and entered into a Microsoft Access database.<br>• Following the formation of Owere Mines Limited, Mwana (then African Gold Plc) completed several exploration programs at the Project consisting of regional soil geochemistry, trenching, diamond core and reverse circulation drilling, focussed on the Boabedroo South prospect.<br>• Signature Metals commenced work at the Project in May 2009 and carried out Diamond Drilling, RC drilling, aircore drilling and trenching of greenfield and brownfield targets through early 2012, focused mainly on oxide potential throughout the Project.<br>• Signature also targeted the historic Konongo Tails, commencing mining in 2011.<br>• Liongold acquired the Project in May 2012 and has refocussed the operation to assess the sulphide potential. Work has focused on the Obenemase Deposits, seven other prioritised brownfield prospects and regional geophysical/geochemical targets. |
| ***Geology*** | • *Deposit type, geological setting and style of mineralisation.* | • The Konongo Project is located on the western margin of the Ashanti Gold belt – a Proterozoic volcanic and sedimentary pile tectonised and mineralised in the Eburnian Orogeny (2100Ma). Most of the deposits hosted in the belt are structurally controlled mesothermal lode gold deposits or sheared, mineralised, syn-structural intrusives. |
| ***Drill hole Information*** | • *A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes:*<br>○ *easting and northing of the drill hole collar*<br>○ *elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar*<br>○ *dip and azimuth of the hole*<br>○ *down hole length and interception depth*<br>○ *hole length.*<br>• *If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.* | • Significant intercepts, with tabulated collar, down hole and survey details are presented in the Quarterly Report if the hole has been drilled or assays returned during the period. No results meet this criteria for the September Quarter 2014. |
| ***Data aggregation methods*** | • *In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg cutting of high grades) and cut-off grades are usually Material and should be stated.* | • Reported results (Table 2) are composites of returned assay results. Reported weighted average grades are greater than 1g/t Au over 1m. Internal dilution up to 2 consecutive metres is included. No external dilution is included. No top cut is applied. Intercept widths are down hole distances.<br>• Notably higher grades in an intercept are included as a subset of the interval. They are |

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| | • *Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.*<br>• *The assumptions used for any reporting of metal equivalent values should be clearly stated.* | prefixed 'including' and the grade is approximately an order of magnitude greater than the weighted average (e.g. 6.7m at 8.31g/t from 286.5m, *including* 0.6m at 24.6g/t Au from 287m).<br>• No metal equivalent grades are used. |
| ***Relationship between mineralisation widths and intercept lengths*** | • *These relationships are particularly important in the reporting of Exploration Results.*<br>• *If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.*<br>• *If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (eg 'down hole length, true width not known').* | • Diamond drilling at Obenemase targets two distinct orientations of mineralisation – sub-vertical lodes and sub-horizontal lodes.<br>• Sub-vertical lodes include Obenemase A Lode, Obenemase B Lode and Obenemase A Lode North, each interpreted and modelled as steeply northwest dipping mineralisation. The Lodes are targeted with holes oriented perpendicular to the regional trend of mineralisation, with azimuths at either 120 or 300 degrees and dips of 45-70 degrees. Azimuths of 120 degrees are drilled when possible, as they have a more oblique intersection angle with interpreted lodes (approximately 60 degrees). Drill holes targeting mineralisation from the east (i.e. drilling west) may return sub-parallel intersections with mineralisation hosted in second order folds.<br>• Sub-horizontal mineralisation (R Zone mineralisation) is targeted with drill hole with azimuths of 120 or 300 degrees, but dips are often steeper, angled at 60-80 degrees. The intercept angle between drill hole and lode is between 60 and 80 degrees. |
| ***Diagrams*** | • *Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.* | • Figures showing the distribution and relationship between reported grades are presented for each Lode or Prospect discussed in the text (Figures 1 through 10). |
| ***Balanced reporting*** | • *Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.* | • Comprehensive reporting has been possible. All significant results for the reporting period are included. |
| ***Other substantive exploration data*** | • *Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment;* | • There are no additional material geological observations that are not discussed in the text. |

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| | *metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.* | |
| ***Further work*** | • *The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).*<br>• *Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.* | • Planned further work is conditional on budgets and continued successes and will.<br>• Continue to test the Obenemase Group of deposits on 40m sections and 40m step-outs to identify the extents of mineralisation to a vertical depth of 300m. The principal targets at Obenemase are:<br>  ○ the R Zone mineralisation,<br>  ○ the Obenemase North Lode mineralisation, and<br>  ○ the down dip extents of the A Lode mineralisation.<br>• Complete the Scoping Study assessing the sulphide potential of key prospects and deposits within the Project.<br>• Continue to target regional oxide and sulphide prospectivity with RC drilling at Prospects identified with Aircore Drilling in 2012-2014. |

| Table 1 report – Section 3<br><br>Estimation and Reporting of Mineral Resources | Konongo Gold Project, Signature Metals<br><br>JORC 2012 |
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(Criteria listed in section 1, and where relevant in section 2, also apply to this section.)

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| ***Database integrity*** | • *Measures taken to ensure that data has not been corrupted by, for example, transcription or keying errors, between its initial collection and its use for Mineral Resource estimation purposes.*<br>• *Data validation procedures used.* | • Geological and sampling information is stored in Datashed. RSC Global Pty Ltd audited and reviewed the database in 2013 and made corrections and recommendations to OML.<br>• These issues were addressed in the database and the data received by Snowden from OML for the Resource estimation did not show any significant discrepancies.<br>• Several basic checks were carried out at the start of the project to broadly investigate the quality of the location data. Visual validation through sectional investigations yielded a large amount of spurious issues ranging from "floating" drill holes, high grade holes crossing below-detection holes, high-angle changes in geological and/or grade continuity where it would be expected to occur at low angles, etc. Verification also |

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| | | included the checking of hard-copy source data with digital data in the database and re-surveying of data points in the field.<br>• Local grid conversion parameters were recalculated and original coordinates revised<br>• 117 collars were relocated and resurveyed and compared against grid back-calculations. These were targeted based on drilling campaign to identify systematic errors. 3 campaigns between 1965 and 1998 required corrections.<br>• Validation of corrections to azimuth and dip data were cross checked against original data and own-hole surveys (dip and azimuth); collars were re-excavated and check-surveyed.<br>• Topographic control was assessed by comparison to high resolution DTM data acquired in 2012.<br>• Digitised historic data was checked by comparing identified relict structures (generally shafts) against historic grid data and grid data conversions. |
| ***Site visits*** | • *Comment on any site visits undertaken by the Competent Person and the outcome of those visits.*<br>• *If no site visits have been undertaken indicate why this is the case.* | • The site visit was undertaken by Dr Belinda van Lente (Senior Consultant at Snowden) between 23rd February and 1st March 2014. The open pit workings were visited, where the geology was reviewed and drilling procedures and sampling methods witnessed.<br>• Furthermore, the sample storage facility where the remainder core and samples are being kept was also assessed. Logging procedures, SG measurements and core orientation was observed. The database and storage was also discussed on-site. Dr<br>• Dr Simon Dominy, the Resource CP, did not visit the site. He supervised Dr van Lente. |
| ***Geological interpretation*** | • *Confidence in (or conversely, the uncertainty of ) the geological interpretation of the mineral deposit.*<br>• *Nature of the data used and of any assumptions made.*<br>• *The effect, if any, of alternative interpretations on Mineral Resource estimation.*<br>• *The use of geology in guiding and controlling Mineral Resource estimation.*<br>• *The factors affecting continuity both of grade and geology.* | • The surface topography was obtained from satellite data by OML in December 2012. The profile and the collar positions agree with one another. It is noted that the satellite DTM show the recent water table in the pit and does not reflect the deepest mining level. Depth measurements were taken and the Obenemase A pit surface was updated accordingly. The geology, weathering profiles and mineralised envelopes were modelled by RSC Global (2013/2014) based on drill hole data (grades, weathering and lithology.<br>• The geology model benefitted from: The establishment of core library for continuity, Shared logging and initial dual logging of holes to ensure consistent interpretation. Then complete re-logging of all drill core, with a core of campaign loggers.<br>• Logging was migrated to propriety software (Maxwell Logchief) to further constrain geology and control logging drift. Logs were assessed in Geovia Surpac for geological coherence.<br>• Systematic capture of structural data from new and historic drill core to constrain plunges, fold interpretation, etc.<br>• Re-logging, in conjunction with improved spatial control permitted more coherent and consistent interpretation of lithology and structure, mineralisation and grades. |

| Criteria | JORC Code explanation | Commentary |
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| ***Dimensions*** | • *The extent and variability of the Mineral Resource expressed as length (along strike or otherwise), plan width, and depth below surface to the upper and lower limits of the Mineral Resource.* | • The Obenemase Resource varies in depth between 300 m and -25 m RL. The mineralisation is open at depth (below 0mRL) over a strike length of 700m. The ore envelopes measure in total 1,085 m along the longest axis, in the north-south direction, and an average of 10 m width. |
| ***Estimation and modelling techniques*** | • *The nature and appropriateness of the estimation technique(s) applied and key assumptions, including treatment of extreme grade values, domaining, interpolation parameters and maximum distance of extrapolation from data points. If a computer assisted estimation method was chosen include a description of computer software and parameters used.*<br>• *The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.*<br>• *The assumptions made regarding recovery of by-products.*<br>• *Estimation of deleterious elements or other non-grade variables of economic significance (eg sulphur for acid mine drainage characterisation).*<br>• *In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.*<br>• *Any assumptions behind modelling of selective mining units.*<br>• *Any assumptions about correlation between variables.*<br>• *Description of how the geological interpretation was used to control the resource estimates.*<br>• *Discussion of basis for using or not using grade cutting or capping.*<br>• *The process of validation, the checking process used, the comparison of model data to drill hole* | • Ordinary kriging was used, with modelled variograms for Au in each kriging zone. The deposit was domained into ore (oxide, transitional and sulphide) and waste. Only the ore portion was estimated. Any changes in dip or dip direction were taken into account by applying dynamic anisotropy, with searches employed in comparison to variogram ranges to limit the influence of samples that were far distant. Minimum and maximum numbers of samples used were 10 and 40 (to 80), respectively. Slicing analysis, visual inspection and average comparisons between the model and composites were done. All three methods showed the estimates to be represented well by the composites.<br>• The model was estimated using OK into domains of similar geological and mineralisation characteristics. Block (panel) sizes were 10 mE by 10 mN by 10 mRL and, where appropriate, selective sub-celling up to 1 mE by 1 mN by 1 mRL<br>• No by-products have been identified.<br>• The interpolated block model was validated through visual checks, a comparison of the mean de-clustered composite and block grades, and through the generation of section validation slices.<br>• A geological model based on a statistical review of the validated drill hole data was created. Separate mineralisation bodies (ore envelopes) were modelled using a 0.5 g/t Au cut-off. A 1 m composite file was used in a geostatistical study (Variography and Quantitative Kriging Neighbourhood Analysis - QKNA) that enabled Ordinary Kriging (OK), controlled by dynamic anisotropy, to be used as the interpolation method. The results of the variography and the QKNA were utilised to determine the most appropriate search parameters and sample numbers. The estimate was undertaken using CAE Datamine Studio 3 software.<br>• The main control on mineralisation is a combination of lithology and structure. Economic mineralisation is predominantly hosted within a sediment package consisting of siltstones and sandstones. Based on the re-logging work as part of this resource estimation, the updated geological model now accurately shows the important boundaries to this sediment package and thus provides a first-pass estimation domain.<br>• Historic Mineral Resource estimation lacks information on mined ore. The Obenemase deposit has been mined underground as well as at surface and production figures are not |

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| | *data, and use of reconciliation data if available.* | complete. Overall depletion figures were compiled by several authors and used to reconcile Mineral Resource estimations. Sulphide ore was mined by Nanwa Mines up until 1953 and reported in Annual Reports, however only mill figures were reported, not actual stope grade.<br>• Grade cutting (top-cutting) was applied in order to lessen the effect of individual high grade samples on the estimate. In cases where individual samples would unduly influence the values of surrounding model cells, without the support of other high grade samples, a top-cut was applied. Top-cuts were applied to the ore samples per kriging zone (KZONE), where KZONE 1 consists of oxide and transitional material, and KZONE 2 consists of the sulphide material.<br>[KZONE top-cut table below]<br>• RSCMME (2014) completed an estimate for Obenemase A and B during February 2014. The mineralisation, weathering surface and underground stope and development wireframes validated and constructed by RSCMME were reviewed and used in the Snowden estimation. Snowden validated the topography surface and geostatistically analysed the drill hole database received from Owere for the re-estimation.<br>• Stope location data, drawing on underground plan view sections, long sections and drill hole intersection data were used to critically assess depletion. There are many drill holes that have penetrated old stopes and drives and these indicate that the average stope thickness is 1.5 m |
| ***Moisture*** | • *Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.* | • Moisture content was determined during the specific gravity measurements. |
| ***Cut-off parameters*** | • *The basis of the adopted cut-off grade(s) or quality parameters applied.* | • Cut-off parameters: Cut-off grades are 0.5g/t for oxide, 0.7g/t for transition and 1.0g/t for primary based on operating cost and recovery data. Top cut parameters for extreme grades were applied based on histogram grade distributions. These were: 26 g/t Au (oxide and transitional); 35.2 g/t Au (sulphide). |
| ***Mining factors or assumptions*** | • *Assumptions made regarding possible mining methods, minimum mining dimensions and internal (or, if applicable, external) mining dilution. It is always necessary as part of the process of determining reasonable prospects* | • It is assumed that Obenemase A and B would be mined by open pit. The current resource base is 275 m below topography, which may be achievable by open cut operation. High grade lodes may prove amenable to underground mining.<br>• Mining is assumed to be completed with traditional truck and shovel methods with |

| KZONE | Grade top-cut limits (g/t Au) | Percentage samples cut (%) | Mean (before cut) (g/t Au) | Mean after cut (g/t Au) | CV before cut (%) | CV after cut (%) |
|---|---|---|---|---|---|---|
| 1 (Oxide and Transitional) | 26.0 | 0.7 | 3.99 | 3.93 | 128 | 121 |
| 2 (Sulphide) | 35.2 | 0.3 | 4.20 | 4.17 | 133 | 129 |

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| | *for eventual economic extraction to consider potential mining methods, but the assumptions made regarding mining methods and parameters when estimating Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the mining assumptions made.* | small to medium size mining equipment, operated by contractors. More detailed equipment selection and operating model will be explored in future studies. Mined material from Obenemase A and B will be transported from the pit to the ROM (or nearby RoM stockpiles) with mining trucks. Waste will be dumped by mining trucks to storage locations near the pit. All mining and haulage is assumed to be completed by a contractor.<br>• The Obenemase A and B mineralisation has several controls for width and orientation Snowden has made a recommendation to consider a variety of methods. Areas that are relatively wide and relatively steeply dipping would be amenable to open stoping (subject to geotechnical constraints); other areas that are narrower but still steeply dipping probably are amenable to bench retreat stoping or an Avoca or modified Avoca method. Some of the narrower areas that are not so steeply dipping could probably be exploited with a top-down cut and fill method. |
| ***Metallurgical factors or assumptions*** | • *The basis for assumptions or predictions regarding metallurgical amenability. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential metallurgical methods, but the assumptions regarding metallurgical treatment processes and parameters made when reporting Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the metallurgical assumptions made.* | • Based on the data of earlier test work conducted during the 1990s, the sulphide material is highly refractory and, as a result, an oxidation pre-treatment stage will be required.<br>• Metallurgical test work by previous operators shows that overall gold recovery to a flotation concentrate can be expected to be around 88% and process pre-treatment and cyanidation produced recoveries of between 82% and 92%. In the modern plant, only oxide processing has been undertaken. The primary-sulphide ore (shown to be refractory in nature) will require a specialised plant circuit.<br>• There is only limited test work data available for the sulphide material and no data for the minor amount of transitional material.Preliminary testing has given a recovery of gold via acid pressure oxidation at 94%. Further metallurgical sampling and test work is required to support design work. |
| ***Environmental factors or assumptions*** | • *Assumptions made regarding possible waste and process residue disposal options. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider the potential environmental impacts of the mining and processing operation. While at this stage the determination of potential environmental impacts, particularly for a greenfields project, may not always be well advanced, the status of early consideration of these potential environmental impacts should be reported. Where these aspects have not been considered this should be reported with an explanation of the environmental assumptions made.* | • The Konongo Project was granted an EPA permit in March 2012, which includes the exploration work at Obenemase.<br>• The existing TMF has up to 18 months projected capacity.<br>• The Project has conducted preliminary work for a new TMF, with a footprint of 18Ha. In 2011 geotechnical work was conducted on the new site by Wardell Armstrong International (WAI). Design of the TMF was undertaken by D E Cooper and Associates (Pty) Ltd and drawings dated December 2011 were issued to OML for review.<br>• Drawings are still marked preliminary and not issued for construction. The new TMF design has been based on a maximum volumetric storage of 4 Mt of tailings over an eight year mine life with an unlined (in-situ compaction) valley fill impoundment.<br>• The EPA grants environmental authorisation to projects via an Environmental Permit (EP), based on the findings of the EIS. Even with the provision of a Mining Lease, individual activities must be licensed with an EP. The project description within an EIS is very specific and relates directly to a specific EP. Any amendment or addition to a |

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| | | project description requires an EP.<br>• Within 18 months of commencing operations, mines are expected to submit and obtain approval for their EMP.<br>• Within 24 months of obtaining an EP, mines are required to obtain an Environmental Certificate from the EPA, which confirms commencement of operations, obtaining of other relevant approvals, compliance with the EMP, and submission of required annual reports.<br>• The WRC may grant a water right and/or a water use permit. It is assumed, but unclear, that the issuance of a water use permit results in a water right (the right to use water for a particular use and according to the permit conditions). |
| ***Bulk density*** | • *Whether assumed or determined. If assumed, the basis for the assumptions. If determined, the method used, whether wet or dry, the frequency of the measurements, the nature, size and representativeness of the samples.*<br>• *The bulk density for bulk material must have been measured by methods that adequately account for void spaces (vugs, porosity, etc), moisture and differences between rock and alteration zones within the deposit.*<br>• *Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.* | • A default specific gravity (SG) of 1.9 g/cm3 was applied to oxide ore, and 1.7 g/cm3 to oxide waste. SG measurements were undertaken by Owere Mines for the transitional and sulphide core samples. These values were estimated into the model. The results averaged 2.80 g/cm3. |
| ***Classification*** | • *The basis for the classification of the Mineral Resources into varying confidence categories.*<br>• *Whether appropriate account has been taken of all relevant factors (ie relative confidence in tonnage/grade estimations, reliability of input data, confidence in continuity of geology and metal values, quality, quantity and distribution of the data).*<br>• *Whether the result appropriately reflects the Competent Person's view of the deposit.* | • The material was classified at Indicated and Inferred. The classification is based on the drill hole density, the number of samples and the search distance applied to estimate each block. Classification wireframes were created in plan view sections of 10 m intervals using CAE Datamine Studio 3. Areas were wire framed as Indicated where drill hole and sample spacing was generally within 25 m (X) by 25 m (Y) by 10 m (Z).<br>• Inferred wireframes were created for areas where the drill hole and sample grid spacing was at least 50 m (X) by 50 m (Y) by 10 m (Z). Additionally, for blocks to be classified as either Indicated or Inferred, a general geological continuity should be shown. This was determined by the variography and the search volumes calculated from the variogram ranges. Three search volumes were used, orientated along the strike, dip direction and the angle of dip of the orebody.<br>• Blocks that were estimated within the primary search volume, generally show geological continuity. Blocks estimated within the secondary search volume, cannot be classified as Indicated, but at the most as Inferred. |

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| | | • Only ore blocks were classified, since the waste was not estimated. |
| ***Audits or reviews*** | • *The results of any audits or reviews of Mineral Resource estimates.* | • The resource estimates have been reviewed by the supervising CP, Dr Simon Dominy.<br>• No third party review has been undertaken. |
| ***Discussion of relative accuracy/ confidence*** | • *Where appropriate a statement of the relative accuracy and confidence level in the Mineral Resource estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the resource within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors that could affect the relative accuracy and confidence of the estimate.*<br>• *The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used.*<br>• *These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.* | • The CPs believe the accuracy of the grade and tonnage estimate for Indicated Mineral Resources to be within ±20-30% globally based on general experience of this style of mineralisation. Similarly, the accuracy of the grade and tonnage estimate for the Inferred Mineral Resource is considered to be within ±30-50% globally based on general experience of this style of mineralisation.<br>• No simulation studies have been undertaken to quantify accuracy.<br>• No well-documented production from the primary-sulphide ore is available to validate the estimate. |