



4th September 2014

ASX Announcement

Predictive Discovery Limited is a gold exploration company with strong technical capabilities focused on its advanced gold exploration projects in West Africa.

ASX: PDI

Issued Capital: 388M shares

Share Price: 1.1 cents

Market Capitalisation: \$4.3M

Directors

Phillip Harman
Non-Exec Chairman

Paul Roberts
Managing Director

Phil Henty
Non-Executive Director

Tim Markwell
Non-Executive Director

High-Grade Maiden Mineral Resource Estimate at Bongou, Burkina Faso

- **Maiden Mineral Resource Estimate of 2.2 Mt at 2.6 g/t Au for 184,000oz**
- **136,000 ounces (>70% of Global Resource) with average grade of 3.8g/t Au (at 2g/t Au cut-off), demonstrating high-grade nature of Bongou**
- Thick, near surface gold mineralisation, favourable for development as an open pit mining operation.
- >50% of the Mineral Resource Estimate is in the Indicated category.
- Open to the south-west and at depth.
- Excellent potential for more high-grade gold mineralisation within 20km of Bongou, which will be the focus of drilling in the next field season.

Mr Paul Roberts, the Company's Managing Director said: *"This Mineral Resource Estimate confirms that Bongou is an intrinsically high-grade gold deposit. Over 70% of the global resource reports into the plus 2g/t Au category with a very attractive average grade of 3.8g/t Au. Previously reported metallurgical work obtained an excellent gold recovery of 94%. With most of the known mineralisation in a single thick body, Bongou is likely to be a very simple proposition to mine and mill."*

"We are focused on discovering more, high-grade mineralisation around Bongou. Trenching, power auger drilling and limited RC drilling in the last six months has identified a series of Bongou-like prospects within 2km of the deposit. We will also explore for high-grade gold deposits in the extensively mineralised and highly prospective Laterite Hill Gold Field, 10km south of Bongou."

Background

The Bongou gold prospect is located in Eastern Burkina Faso (Figure 4). Gold mineralisation there is contained within an intensely altered pyrite-bearing granite intrusion. PDI has completed four RC and diamond drilling programs at Bongou since the discovery was made in mid-2012, resulting in a series of high grade and width drill intercepts (e.g. Figure 1).

The Company has now completed a formal Mineral Resource Estimate on the drilled out portion of the deposit with the assistance of Golder Associates, a widely respected global mining consultancy (see attached Mineral Resource statement).

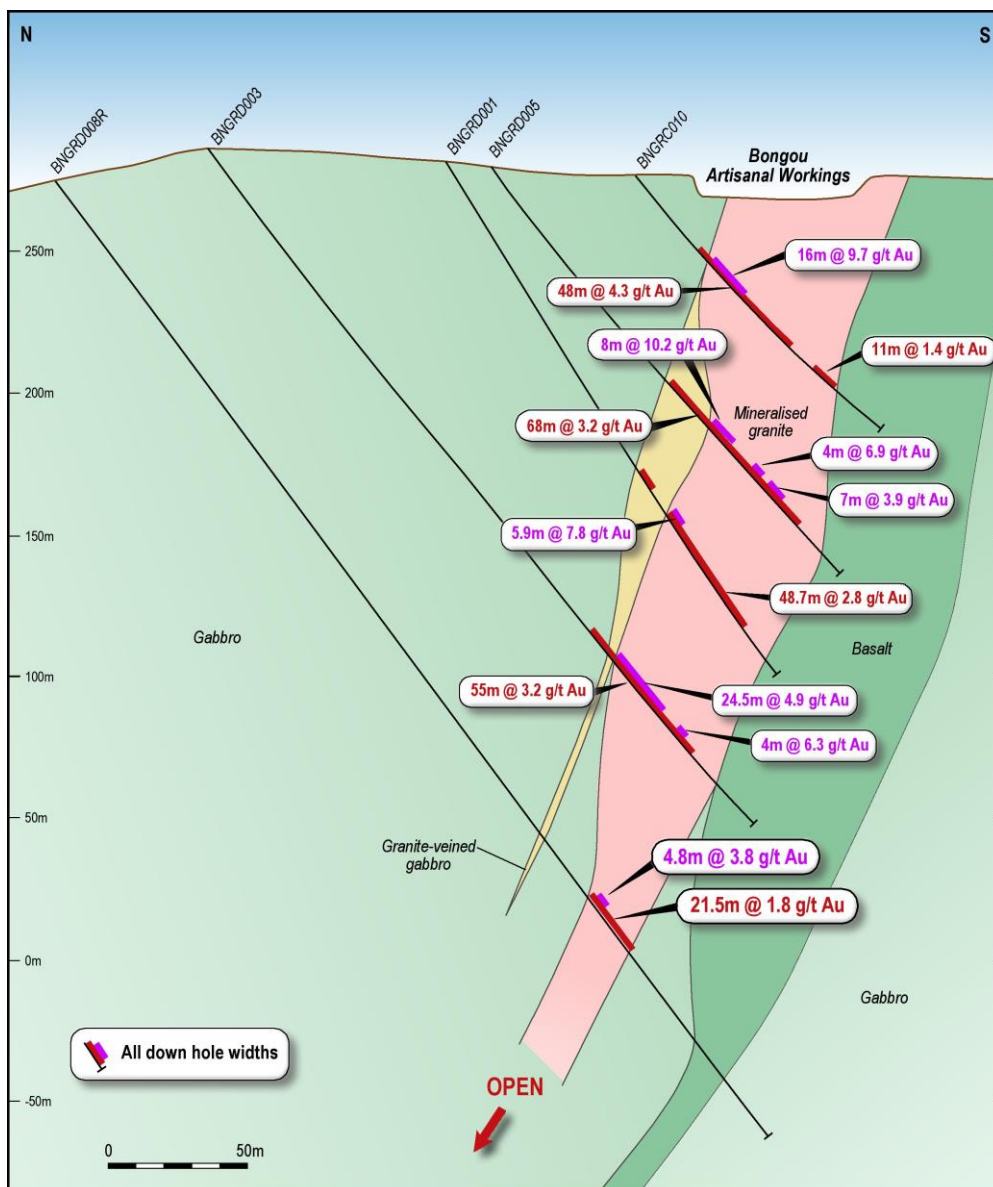


Figure 1: Cross Section through drill holes BNGRC010, BNGRD001, BNGRD003, BNGRD005 and BNGRD008R. No vertical exaggeration. Only down-hole widths are shown on this cross-section. Intervals marked in dark red are calculated at a 0.5g/t Au cut-off and in magenta at a 3g/t Au cut-off. Assay data reported in PDI's ASX releases dated 2nd December 2013, 16th December 2013, 20th March 2014 and 1st April 2014.

MINERAL RESOURCE ESTIMATE RESULTS

Results of the Bongou Mineral Resource estimate are tabulated as follows:

	Indicated Resources			Inferred Resources			Total Resources		
Cut-off	Million tonnes	Au (g/t)	Ounces	Million tonnes	Au (g/t)	Ounces	Million tonnes	Au (g/t)	Ounces
0.4	1.21	2.54	99,000	1.33	2.13	91,000	2.55	2.32	190,000
0.8	1.14	2.67	98,000	1.09	2.48	86,000	2.22	2.58	184,000
2.0	0.64	3.64	75,000	0.49	3.90	61,000	1.13	3.75	136,000
3.0	0.34	4.68	52,000	0.28	4.95	45,000	0.62	4.80	96,000

Details of the resource estimation methods are provided in the attached Mineral Resource estimate statement. Highlights of this Mineral Resource estimate include:

- The Bongou deposit is intrinsically high grade, because:
 - There is very little difference in contained ounces between the 0.4g/t Au cut-off and the 0.8g/t Au cut-off grades, and
 - Over 70% of the resource ounces are retained when the cut-off grade is raised from 0.8g/t Au to 2.0g/t Au, with a high average grade of 3.75g/t Au.
- The bulk of the estimated resources are contained in one mineralised granite body, which is thick in the near surface and appears to taper to the east.
- The shape of the mineralisation lends itself to a simple open pit mining operation, with high-grade mineralisation in the near surface position, which would suggest the possibility of early strong cash flow in a future mining operation.
- Gold grades are associated with pyrite-bearing altered granite, which is very visibly distinct from the adjacent low grade gabbro, suggesting that dilution can be minimised quite easily by standard grade control practice.
- Previously reported metallurgical work on a composite sample of primary gold mineralisation from Bongou gave a 94% gold recovery from a standard 75 micron grind, 72

hour cyanidation test (ASX release dated 14th May 2013¹) suggesting that gold recoveries from mining this deposit would be very high.

EXPLORATION POTENTIAL

PDI remains focused on identifying additional, high-grade gold deposits within trucking distance of the Bongou deposit, in order to achieve the Company's aim of establishing a highly profitable, long lived mining operation in the area. There is substantial exploration potential to achieve this, both in the immediate area around Bongou and a little further afield in the well mineralised permit group which surrounds the deposit.

Exploration Potential near Bongou

The deposit is not closed off to the south-west or at depth. Detailed geological re-interpretation of the gold deposit in preparation for the Mineral Resource estimate shows that the mineralisation is hosted in three zones, arranged in "en echelon" fashion from NE to SW (Figure 2). The north-eastern zone does not appear to reach the surface and the area south-west of the largest single mineralised granite body has not yet been effectively tested, opening up the possibility of concealed gold mineralisation in an untested area to the south-west of the drilled resource. There is also no geological reason why the deposit may not widen with depth below the deepest hole drilled so far, BNGRD008R (Figure 1).

Power auger drilling and trenching has identified five locations near Bongou with anomalous gold values in altered granite within 2 km of the deposit (ASX release dated 30th July, 2014). Completion of four shallow drill holes on two of these targets in the 2013-14 field season intersected up to 12 m at 2.45 g/t Au (ASX release dated 1st April 2014). RC drilling is planned to test these targets in the next field season, commencing in November 2014.

Within 20 km of Bongou

There is substantial potential to find additional high-grade gold mineralisation throughout the 100 km of greenstone belt that PDI holds around and along strike from Bongou. Knowledge gained from the past 12 months of exploration near Bongou has also given PDI's team new insights into the geological and geophysical signature of such deposits, which will be used for targeting in the coming field season.

¹ This information was prepared and first disclosed under the JORC Code 2004. It has not been updated since to comply with the JORC Code 2012 on the basis that the information has not materially changed since it was last reported.

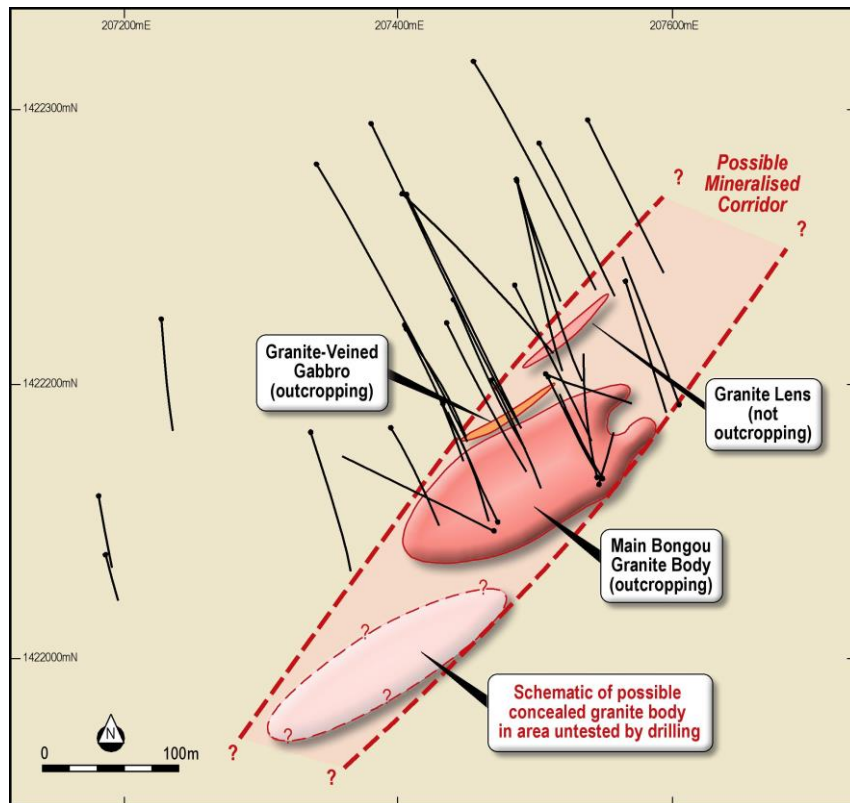


Figure 2: Map of the Bongou Prospect, showing possible location of another granite lens south-west of the main granite body. The “en echelon” arrangement of mineralised granite bodies suggests that they are located within a north-east trending mineralised corridor.

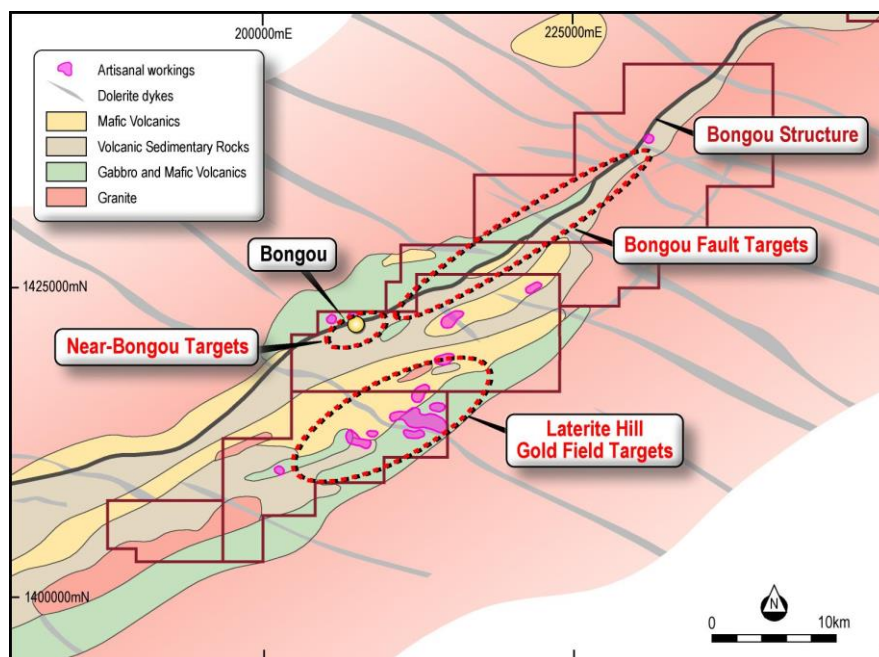


Figure 3: Geological map of SW Bonsiega permit group, including Bongou, showing PDI’s priority target areas for the discovery of additional high-grade gold resources.

PDI's immediate priority is to find additional, high-grade gold deposits within 20 km of Bongou (Figure 3). Exploration work in the next field season will focus on:

- The Bongou Fault (Figure 3), most of which has never been tested by effective geochemical exploration methods, and
- The Laterite Hill Gold Field, where previous exploration has identified over 18 km of strong bedrock gold geochemical anomalies (ASX release dated 13th February 2012²), the bulk of which have not yet been effectively drill tested for Bongou-like, high-grade gold deposits. Drilling in 2011 and 2012 has already obtained high-grade RC drill intercepts in multiple prospects, indicating that high-grade mineralisation is present in the area, e.g.:
 - Dave Prospect:
 - **10 m at 18 g/t Au** from 74 m (ASX release dated 23rd April 2012²)
 - **26 m at 5.0 g/t Au** from 26 m (ASX release dated 5th July 2012²)
 - Laterite Hill Prospect
 - **4 m at 5.7 g/t Au** from 76 m (ASX release dated 23rd April 2012²)
 - Tamboana Prospect
 - **5 m at 5.1 g/t Au** from 36 m (ASX release dated 23rd April 2012²)
 - Prospect 71
 - **4 m at 7.1 g/t Au** from 20m (ASX release dated 23rd May 2012²)

PLANNED EXPLORATION PROGRAM

The next field program, starting in November 2014, will consist of the following elements:

- RC drilling of Bongou-like targets in a 2 km radius of Bongou
- Detailed ground geophysics and geological mapping on targets selected either on past results or by mapping of structures using aeromagnetic data.
- Trenching where practicable i.e. where cover is thin enough.
- Power auger and RAB drilling of high priority targets
- RC drill follow-up of best RAB and power auger results.

The Company has now reduced its full time staff in Burkina Faso to five persons, so the above field programs will be carried out using contract staff on a campaign basis. This work is expected to be highly cost-effective as most exploration costs in Burkina Faso have fallen in the past two years with the general reduction in exploration activity there.

² This information was prepared and first disclosed under the JORC Code 2004. It has not been updated since to comply with the JORC Code 2012 on the basis that the information has not materially changed since it was last reported.

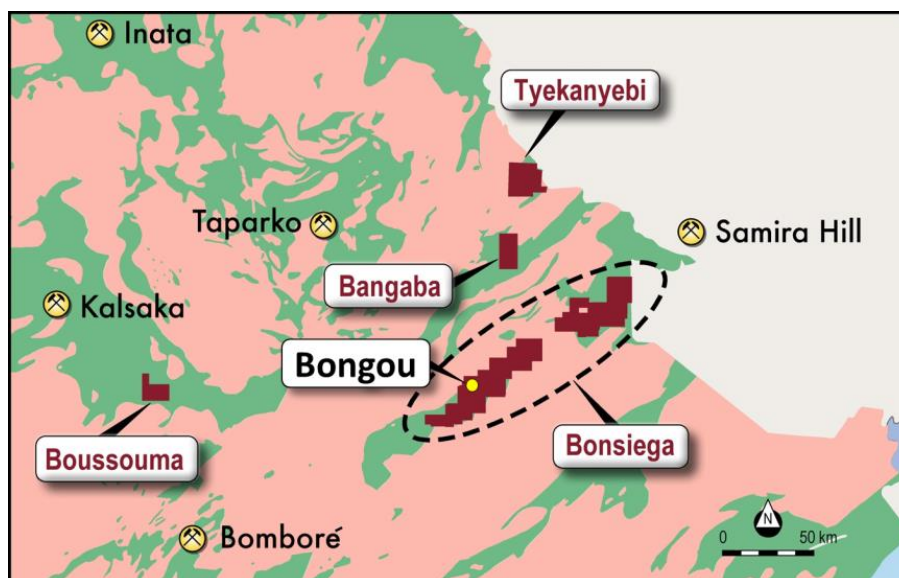


Figure 4: Locality map of PDI permits in eastern Burkina Faso, showing location of Bongou

Predictive Discovery Limited (PDI) was established in late 2007 and listed on the ASX in December 2010. The Company is focused on exploration for gold in West Africa. The Company's major focus is in Burkina Faso, West Africa where it has assembled a substantial regional ground position totalling 1,605km² and is exploring for large open-pit gold deposits. Exploration in eastern Burkina Faso has yielded a large portfolio of exciting gold prospects, including the Bongou trend where a series of high-grade gold drill intercepts have been obtained recently. PDI also has interests in a strategic portfolio of tenements in Cote D'Ivoire covering a total area of 1534 km².

Competent Persons Statement

The exploration results reported herein, insofar as they relate to mineralisation, are based on information compiled by Mr Paul Roberts (Fellow of the Australian Institute of Geoscientists). Mr Roberts is a full time employee of the company and has sufficient experience relevant to the style of mineralisation and type of deposits being considered to qualify as a Competent Person as defined by the 2012 Edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. Mr Roberts consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

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2 September 2014

Reference No. 147641039-001-L-Rev0

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BONGOU MINERAL RESOURCE STATEMENT

Dear Paul

At the request of Predictive Discovery Ltd (PDI), Golder Associates Pty Ltd (Golder) has prepared the Mineral Resource estimate for the Bongou gold deposit, East Burkina Faso, West Africa. The Mineral Resource estimate was classified in accordance with the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (The JORC Code, 2012 Edition).

The classification of the Mineral Resource was based principally on geological confidence criteria, the distribution and quality of drilling and sampling information and the performance of the grade interpolation.

The *in situ* Bongou Mineral Resource is shown in Table 1, reported at a range of Au cut-off grades and reported above 40 m RL. The Mineral Resource is depleted for historical mining activity.

Table 1: Bongou Mineral Resources

Cut-off	Indicated Resources			Inferred Resources			Total Resources		
(Au g/t)	Tonnage (Mt)	Au g/t	Ounces	Tonnage (Mt)	Au g/t	Ounces	Tonnage (Mt)	Au g/t	Ounces
0.4	1.21	2.54	99 000	1.33	2.13	91 000	2.55	2.32	190 000
0.8	1.14	2.67	98 000	1.09	2.48	86 000	2.22	2.58	184 000
2.0	0.64	3.64	75 000	0.49	3.90	61 000	1.13	3.75	136 000
3.0	0.34	4.68	52 000	0.28	4.95	45 000	0.62	4.80	96 000

LOCATION

The Burkina Faso projects (including Bongou) are all located within the Birimian gold belts in Eastern Burkina Faso, West Africa (Figure 1).



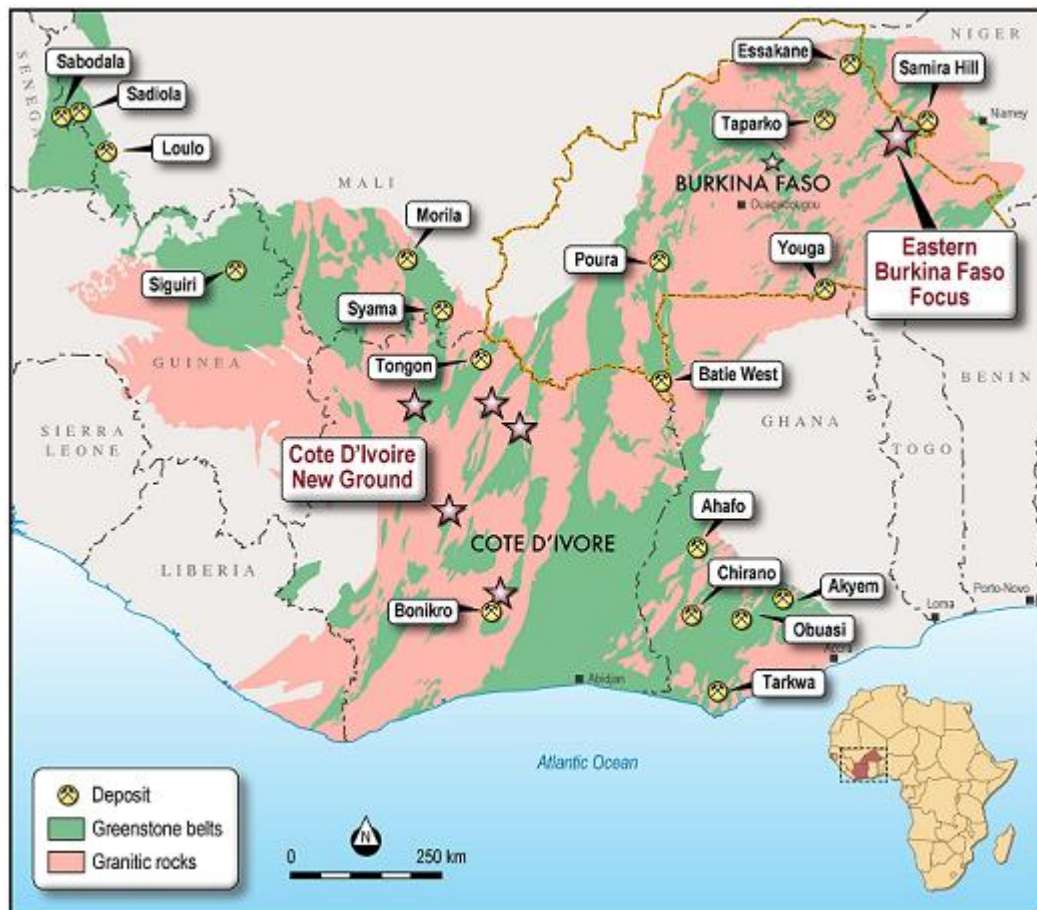


Figure 1: Bongou Deposit Location (after PDI)

GEOLOGY AND GEOLOGICAL INTERPRETATION

Mineralisation at Bongou consists of an intensely altered (silica-albite) and quartz veined granite body lying between a sheared gabbro on the northern margin of the mineralisation and a basalt body (partly sheared) on the southern margin. The gabbro and basalt contacts are approximately parallel to one another. Pyrite is disseminated throughout the mineralisation with higher gold grades apparently associated with coarse-grained pyrite. The quartz veins contain some carbonate and the mineralisation contains minor magnetite and some sericite in fractures.

The mineralised body lies within a large structure which extends for at least several hundred kilometres along strike. The mineralisation is interpreted as a variant of the orogenic gold mineralisation style, which is known throughout the Birimian Belt of West Africa.

PDI is confident in the overall geological interpretation of the deposit. The bulk of the gold mineralisation is hosted in a continuous altered granite body. This is indicated by detailed geological mapping at a scale of 1:500 in the shallow artisanal workings carried out by Mr Paul Roberts of PDI. In addition, Mr Roberts' surface mapping of the hanging wall geology in the same area demonstrates that the thin shear-bounded panels of granite within the gabbroic hanging wall rocks can be traced over 10s of metres along strike.

Detailed geological logging has been carried out on all drill samples, recording lithology, weathering, structure, (including orientation where drill core is oriented), veining and/or mineralisation, grain size and colour. Logging of sulfide mineralisation and veining is quantitative. Rock quality designation was recorded routinely. In addition, the core was checked re-logged by Mr Roberts, the Competent Person for the drill hole data and the supporting information, in order to refine the geological interpretation prior to the Mineral Resource estimation. All cut drill core was photographed. PDI believes that the logging is of an appropriate standard to support estimation of a Mineral Resource.

The geological interpretation was completed by Golder based on the re-logged geology codes provided by PDI. The mineralisation was interpreted at a cut-off grade of 0.2 g/t Au. An example cross-section of the mineralisation interpretation is shown in Figure 2. Three dimensional wireframe modelling was carried out using Vulcan® software. The wireframe models were reviewed by PDI prior to their use to construct the block model.

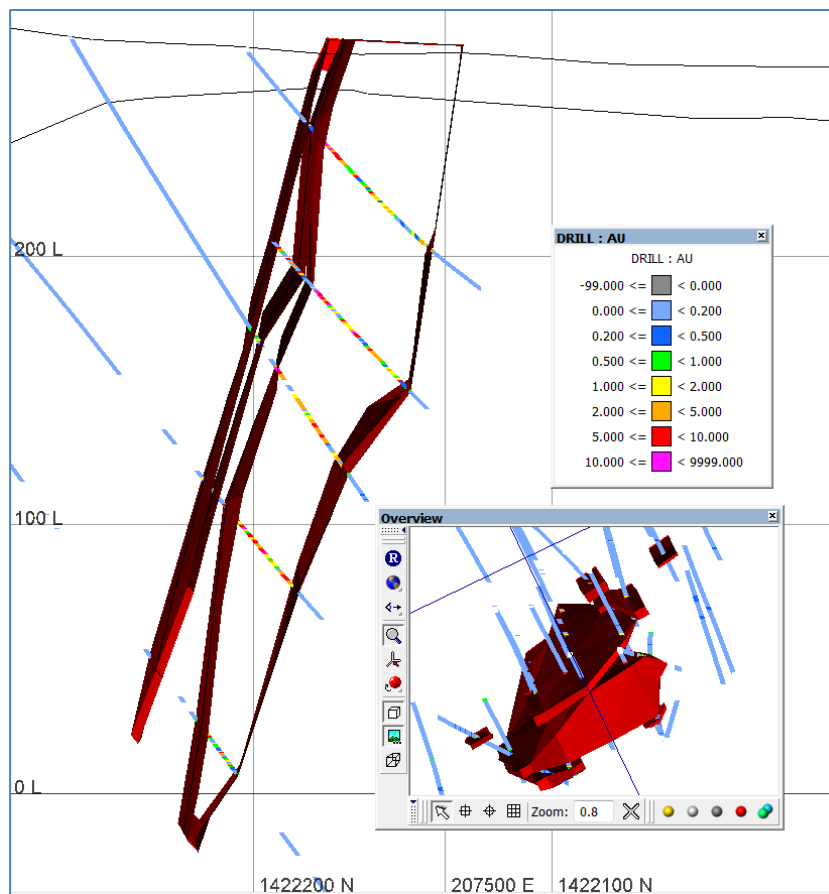


Figure 2: Cross-section of Bongou deposit showing mineralisation interpretation at 0.2 g/t Au

DRILLING TECHNIQUES

Reverse Circulation (RC) drilling was carried out using a 4.5 inch or 5.5 inch face-sampling hammer. RC precollars varied from 20 m to 200 m long and the diamond drill tails were up to 221.5 m long. The diamond core size was NQ apart from up to 3 m of HQ core which was drilled immediately after the changeover from RC to diamond coring. The diamond core was oriented using a core orientation device.

Drill holes were dominantly drilled approximately at right angles to the strike of the target mineralisation which also corresponds closely to the foliation strike in this area. A few holes were drilled at oblique angles to the strike of the mineralisation, mainly to test for potential cross-cutting structures that were assumed by PDI to terminate the body at its eastern and western ends. The drilling did not identify any cross-cutting structures or alternate mineralisation orientations.

Sample recovery was estimated for all samples. RC recoveries were estimated by estimating the volume of material in each bag by measuring the height of sample in the bag and its diameter and reducing the volume by an assumed 40% inflation factor. The RC recovery was then estimated by dividing the estimated rock volume in the bag by the known volume of the drill hole. Core samples were measured from core block to core block once core prior to placement of the core in core trays.

Sample recovery was maximised in the RC drilling by use of a face-sampling hammer and, in most cases, by converting to diamond coring when it was no longer possible to drill dry samples.

A petrological study of the mineralisation and the absence of any high-grade gold or outlier values above 32.9 g/t Au both point to the gold grain size typically being below 50 microns which would also help mitigate against sampling not being representative.

SAMPLING AND SUB-SAMPLING TECHNIQUES

All of the sampling described in this report refers to either RC drill samples or diamond drill core samples. The RC drilling was used to obtain 1 m samples from which 2 kg was pulverised to produce a 50 g charge for fire assay.

The RC samples were reduced to a 2 kg sample by riffle splitting on site. Measures were taken to avoid wet RC drilling and the drilling method was changed from RC to diamond coring at or before the point when the air pressure from the RC rig was incapable of keeping the samples dry.

The drill samples were considered by PDI to be representative of the rock being drilled because representative sub-sampling of both the RC and diamond core samples was achieved.

Core samples were cut in half longitudinally with a diamond core saw with one half submitted for assay and the remaining half retained in core trays which are stored at PDI's field camp at the town of Gayeri in eastern Burkina Faso. Core sampling intervals were defined by variations in lithology and mineralogy but are typically 0.5 m to 1.0 m. An on-site riffle splitter was used to produce a 2 kg assay sample for submission to SGS. Either one or two reference riffle-split 2 kg samples are retained from the RC samples for future re-assay or metallurgical testwork. The sampling (and analytical) methods were appropriate for the style of mineralisation, as no visible gold has been observed and previous petrological studies indicate that the typical gold grain size is less than 50 microns.

SAMPLE ANALYSIS METHODS

All samples were assayed for gold by 50 g fire assay at the SGS laboratory in Ouagadougou, Burkina Faso. The technique is considered a total analysis.

No geophysical tools, spectrometers or handheld XRF instruments have been used on RC and diamond drill samples from this prospect.

Unlabelled standards were submitted with all assay batches, generally at the rate of one standard every 15th sample, whether from RC or diamond drilling. Blanks were also submitted with RC sample batches.

A review of the QAQC data was completed by Golder. The QAQC program included company standards and blanks submitted at a rate of about 6% of all assayed samples. Laboratory repeat analysis was conducted on about 9% of assayed samples and analysis of some laboratory duplicates was also completed. No significant discrepancies were identified in the QAQC data. Golder considers the accuracy and precision of all the QAQC results to be acceptable.

RESOURCE ESTIMATION METHODOLOGY

Statistical and geostatistical analyses were carried out on drilling data composited to 2 m downhole intervals. This included variography to model the spatial continuity of the grades within the mineralisation domains.

Multiple Indicator Kriging (MIK) was used for estimation of the mineralisation and background domains using Golder proprietary software. The MIK approach included a change of support using the Indirect Lognormal correction using a 0.1 variance correction factor to emulate a selective open pit mining scenario.

High-grade treatment was applied for the mineralisation domains using spatial restraining. High-grade composites greater than 15 g/t Au were used only in the estimation of blocks within a 20 m by 20 m by 5 m radius of the high-grade composite in the plane of the mineralisation.

A geological block model was constructed with a parent cell size of 10 m (X) by 5 m (Y) by 5 m (Z) with sub-celling of 2 m (X) by 1 m (Y) by 1 m (Z) to achieve acceptable resolution of geological domains. Estimation was carried out within panels of dimensions 20 (X) by 10 (Y) by 5 m (Z) to achieve acceptable local estimation quality based on the nominal drill hole density and domain geometry.

The resource estimate grades were validated globally comparing statistics by domains between blocks and samples. Visual inspection and swath plots were used for local validations. The model grade-tonnage curve was also validated against a change of support model. The overall results are considered acceptable and adequate to the level of resource confidence of the deposit.

Average dry bulk density values were assigned to the block model by geological domain based on average values calculated from 205 density measurements.

CUT-OFF GRADES

The resource model is constrained by assumptions about economic cut-off grades. The mineralisation domain in the geological interpretation is based on a nominal cut-off grade of 0.2 g/t Au. The Mineral Resources were reported at a range of cut-off grades between from 0.4 g/t Au and 3.0 g/t Au, applied on a block by block basis.

RESOURCE CLASSIFICATION AND REPORTING CRITERIA

The Mineral Resource estimate was classified in accordance with The JORC Code, 2012 Edition. The grade estimates have been classified as Indicated and Inferred Resources based principally on geological confidence criteria, the distribution and quality of drilling and sampling information and the performance of the grade interpolation.

The drill spacing at Bongou consists of 40 m spaced sections with drill holes at 40 m centres on each section. The Mineral Resources were classified according to the following criteria and assumptions:

- Indicated Resources: the area of Bongou classified as Indicated Resources has three sections spaced at 40 m with drill holes at 40 m centres on-section. The kriging slope of regression was used as a guide, with the aim that the region classified as Indicated Resources is generally supported by blocks with a slope greater than 0.6.
- Inferred Resources: all remaining estimated blocks.
- Extrapolation of mineralisation from drill hole was limited to 20 to 30 m, generally half of the nominal drill hole spacing on section.
- A Lerch-Grossman pit shell was used to constrain the depth of the extent of the Mineral Resource classification and reporting of the Mineral Resource. The pit shell was constructed using a US\$40/g Au price, mining costs of approximately US\$3/t mined, processing and administration costs of approximately US\$23/t milled, and a revenue factor of 2.0 to allow for potential increases in Au price. Assumed dilution and recovery factors were 5% mining dilution, 95% mining recovery and 95% process recovery.

MINING AND METALLURGICAL METHODS

The Mineral Resource estimation approach has assumed that mining will take place using an open pit, selective mining method. This is reflected in the resource estimation method of MIK which incorporates a change of support to emulate selective mining. The vertical block size is 5 m, which forms the basis of the assumed vertical selectivity in the Mineral Resource estimate. Metallurgical recovery was not directly accounted for in the resource estimation process, however a 95% process recovery was assumed in the pit optimisation process to guide the constraining of the Mineral Resource for reporting purposes.

PDI has carried out one sighter metallurgical test on what it considers to have been a representative composite sample of unoxidised mineralisation from RC drilling (reported to the ASX on 14 May 2013). The sample was ground to 75 microns and subjected to a standard cyanide leach test over 72 hours which generated a 94% recovery. 90% of the gold was recovered in the first four hours indicating excellent leaching kinetics.

JORC CODE (2012 EDITION) ASSESSMENT CRITERIA

The JORC Code (2012) describes a number of criteria, which must be addressed in the Public Report of Mineral Resource estimates for significant projects. These criteria provide a means of assessing whether or not parts of or the entire data inventory used in the estimate are adequate for that purpose. The resource estimate stated in this document was based on the criteria set out in Table 1 of that Code. These criteria are discussed as follows.

JORC Code Assessment Criteria	Comments
Section 1: Sampling Techniques and Data	
Sampling Techniques	
<i>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.</i> <i>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</i> <i>Aspects of the determination of mineralisation that are Material to the Public Report. In cases where 'industry standard' work has been done this would be relatively simple (e.g. '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 (e.g. submarine nodules) may warrant disclosure of detailed information.</i>	All of the sampling described in this report refers to either Reverse Circulation (RC) drill samples or diamond drill core samples. The RC drilling was used to obtain 1 m samples from which 2 kg was pulverised to produce a 50 g charge for fire assay. The RC samples were reduced to a 2 kg sample by riffle splitting on site. The diamond core samples were cut in half longitudinally using a diamond saw. Measures were taken to avoid wet RC drilling and the drilling method was changed from RC to diamond coring at or before the point when the air pressure from the RC rig was incapable of keeping the samples dry. The drill samples were considered by PDI to be representative of the rock being drilled because representative sub-sampling of both the RC and diamond core samples was achieved.
Drilling Techniques	
<i>Drill type (e.g. core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc.), and details (e.g. 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.).</i>	RC drilling was carried out using a 4.5 inch or 5.5 inch face-sampling hammer. RC precollars varied from 20 to 200 m long and the diamond drill tails were up to 221.5 m long. The diamond core size was NQ apart from up to 3 m of HQ core which was drilled immediately after the changeover from RC to diamond coring. The diamond core was oriented using a core orientation device.
Drilling Recovery	
<i>Method of recording and assessing core and chip sample recoveries and results assessed.</i> <i>Measures taken to maximise sample recovery and ensure representative nature of the samples.</i> <i>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.</i>	Sample recovery was estimated for all samples. RC recoveries were estimated by estimating the volume of material in each bag by measuring the height of sample in the bag and its diameter and reducing the volume by an assumed 40% inflation factor. The RC recovery was then estimated by dividing the estimated rock volume in the bag by the known volume of the drill hole. Core samples were measured from core block to core block prior to placement of the core in core trays. Sample recovery was maximised in the RC drilling by use of a face sampling hammer and, in most cases, by converting to diamond coring when it was no longer possible to drill dry samples. A petrological study of the mineralisation and the absence of any high-grade gold value above 32.9 g/t Au both point to the gold grain size typically being below 50 microns which would also help mitigate against sampling not being representative.

JORC Code Assessment Criteria	Comments
Logging <i>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.</i> <i>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc.), photography.</i> <i>The total length and percentage of the relevant intersections logged</i>	Detailed geological logging has been carried out on all drill samples, recording lithology, weathering, structure, (including orientation where drill core is oriented), veining and/or mineralisation, grainsize and colour. Logging of sulfide mineralisation and veining is quantitative. Rock quality designation was recorded routinely. In addition, the core was check re-logged by Mr Paul Roberts, the Competent Person for the drill hole data logging, in order to refine the geological interpretation prior to the resource estimation. All cut drill core was photographed. PDI believes that the logging is of an appropriate standard to support calculation of a Mineral Resource.
Sub-Sampling Techniques and Sample Preparation <i>If core, whether cut or sawn and whether quarter, half or all core taken.</i> <i>If non-core, whether riffled, tube sampled, rotary split, etc., and whether sampled wet or dry.</i> <i>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</i> <i>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</i> <i>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.</i> <i>Whether sample sizes are appropriate to the grain size of the material being sampled.</i>	Core samples were cut in half longitudinally with a diamond core saw with one half submitted for assay and the remaining half retained in core trays which are stored at PDI's field camp at the town of Gayeri in eastern Burkina Faso. Core sampling intervals were defined by variations in lithology and mineralogy but are typically 0.5 m to 1.0 m. An on-site riffle splitter was employed to produce a 2 kg assay sample for submission to SGS. Either one or two reference riffle-split 2 kg samples are retained from the RC samples for future re-assay or metallurgical testwork. The sampling (and analytical) methods were appropriate for the style of mineralisation, especially as no visible gold has been observed and previous petrological studies indicate that the typical gold grain size is less than 50 microns.
Quality of Assay Data and Laboratory Tests <i>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</i> <i>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.</i> <i>Nature of quality control procedures adopted (e.g. standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e. lack of bias) and precision have been established.</i>	All samples were assayed for gold by 50 g fire assay at the SGS laboratory in Ouagadougou, Burkina Faso. The technique is considered a total analysis. No geophysical tools, spectrometers or handheld XRF instruments have been used on RC and diamond drill samples from this prospect. Unlabelled standards were submitted with all assay batches, generally at the rate of one standard every 15th sample, whether from RC or diamond drilling. Blanks were also submitted with RC sample batches. A review of the QAQC data was completed by Golder. The accuracy and precision for all the QAQC results is considered acceptable.

JORC Code Assessment Criteria	Comments
Verification of Sampling and Assaying <i>The verification of significant intersections by either independent or alternative company personnel.</i> <i>The use of twinned holes.</i> <i>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</i> <i>Discuss any adjustment to assay data.</i>	No drill holes have yet been twinned. Field data collection is undertaken by PDI's Burkina Faso-based geologists. All results are checked by Mr Paul Roberts, the Competent Person for the sampling and assaying.
Location of Data Points <i>Accuracy and quality of surveys used to locate drill holes (collar and downhole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.</i> <i>Specification of the grid system used.</i> <i>Quality and adequacy of topographic control.</i>	Collar positions (eastings and northings) were located using a hand-held GPS with an estimated location error of +/-3 m. Collar RLs were established by interpolation between surveyed points established for an earlier geophysical survey with an estimated elevation error of less than 1 m. Collar coordinates listed in the table are for Universal Transverse Mercator (UTM), Datum WGS 84, Zone 31 – Northern Hemisphere.
Data Spacing and Distribution <i>Data spacing for reporting of Exploration Results.</i> <i>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.</i> <i>Whether sample compositing has been applied.</i>	The drill spacing at Bongou consists of 40 m spaced sections with drill holes at 40 m centres on-section. The data spacing is sufficient to characterise overall grade continuity along strike and down-dip, however additional short-scale drilling is required to characterise short-scale variability. Sample data was composited to 2 m down hole.
Orientation of Data in Relation to Geological Structure <i>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</i> <i>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.</i>	Drill holes were dominantly drilled approximately at right angles to the strike of the target mineralisation which also corresponds closely to the foliation strike in this area. A few holes were drilled at oblique angles to the strike of the mineralisation, mainly to test for potential cross-cutting structures that were assumed by PDI to terminate the body at its eastern and western ends. The drilling did not identify any cross-cutting structures or alternate mineralisation orientations. The mineralisation appears to be a disseminated type with no evidence yet identified for mineralisation distribution being in any orientation other than parallel to strike of the mineralised body. The geological interpretation is interpreted to have a strike orientation of approximately 60° with a north-westerly dip of around 70° to 80°. The drilling sections are approximately orthogonal to the strike of interpreted mineralisation and the drill orientation on section provides an acceptable intersection and representation of the mineralisation thickness.

JORC Code Assessment Criteria	Comments
Sample Security <i>The measures taken to ensure sample security.</i>	The large RC sample bags have been stored at a sample farm adjacent to the Bongou prospect. These are guarded at all times by a local resident hired for this purpose, however the bags are gradually deteriorating and re-sampling of much of the RC is no longer considered practicable. 2 kg reference samples are stored at PDI's field camp in the town of Gayeri, which is guarded 24 hours per day. Pulp samples are retained at company premises in Ouagadougou which are also guarded 24 hours per day.
Audits and Reviews <i>The results of any audits or reviews of sampling techniques and data.</i>	No external review or audit of the sampling methods has been carried out. PDI believes that sampling has been carried out in accordance with industry best practice.
Section 2: Reporting of Exploration Results	
Mineral Tenement and Land Tenure Status <i>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.</i> <i>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.</i>	The Bongou Prospect lies entirely within the Madyabari Permit (Arrêté N°2011/11/352/MCE/SG/DGMGC) which covers an area of 172 km². There are no overriding reserves or national parks over this permit. In a future mining operation, the Government of Burkina Faso is entitled to a 10% share of any mine along with a 3-5% ad valorem royalty, the percentage of which is determined by the gold price prevailing at the time. At present, PDI is awaiting a three year special renewal of the licence by the Burkina Faso Government. PDI believes that (a) the permit is securely held as it has complied with all the necessary government requirements and (b) the permit can be replaced in due course by a mining licence as long as a Feasibility Study shows that a future mine would be viable and the Government's legal requirements are met by PDI. The Madyabari permit was initially acquired, along with three other nearby permits (Sirba, Fouli and Tantiabongou), by Birrimian Pty Ltd (Birrimian), which is a British Virgin Islands-registered company now 100% owned by PDI. The original owners of Birrimian subsequently entered into an agreement with Eldore Mining Corporation Limited (Eldore) through which Eldore could acquire the Birrimian permits through a series of payments and a commitment to issue US\$2 million worth of Eldore stock on completion of a Bankable Feasibility Study on one or more of the prospects within the Birrimian permits. PDI initially acquired an interest in Madyabari along with the three other Birrimian permits via a joint venture with Eldore which commenced in January 2010. In 2012, Eldore changed its name to Stratos Resources Limited (ASX: SAT) after which PDI bought out SAT's residual interest (in late 2012). In acquiring Birrimian, PDI also inherited the one unfulfilled commitment in the original Eldore agreement with the original Birrimian shareholders. This commitment has now been agreed to mean that PDI will issue US\$2 million worth of Predictive Discovery Limited shares after PDI accepts an offer of finance for development of a mine on the Birrimian permits (at its sole discretion) following completion of a Bankable Feasibility Study.

JORC Code Assessment Criteria	Comments
Exploration Done by Other Parties <i>Acknowledgment and appraisal of exploration by other parties.</i>	Past exploration over the Bongou prospect consisted of wide spaced soil sampling and an aeromagnetic survey. Previous explorers did not recognise the significance of the Bongou mineralisation, which appears to have been discovered by artisanal miners.
Geology <i>Deposit type, geological setting and style of mineralisation.</i>	Mineralisation consists of an intensely altered (silica-albite) and quartz veined granite body positioned between a sheared gabbro on northern margin of the mineralisation and a basalt body (partly sheared) on the southern margin. The gabbro and basalt contacts are approximately parallel to one another. Pyrite is disseminated throughout the mineralisation with higher gold grades apparently associated with coarse-grained pyrite. The quartz veins contain some carbonate and the mineralisation contains minor magnetite and some sericite in fractures. The mineralised body lies within a large structure which extends for at least several hundred kilometres along strike. The mineralisation is interpreted as a variant of the orogenic gold mineralisation style, which is known throughout the Birimian Belt of West Africa.
Drill Hole Information	No new Exploration Results have been reported.
Data Aggregation Methods	No new Exploration Results have been reported.
Relationship Between Mineralisation Widths and Intercept Lengths	No new Exploration Results have been reported.
Diagrams	No new Exploration Results have been reported.
Balance Reporting	No new Exploration Results have been reported.
Other Substantive Exploration Data	No new Exploration Results have been reported.
Further work	Further drilling is planned to test for possible extensions to the mineralisation or new separate blind lenses of granite along strike to the south-west.
Section 3: Estimation and Reporting of Mineral Resources	
Database Integrity <i>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.</i> <i>Data validation procedures used.</i>	Digital assay data is supplied directly by PDI's analytical laboratory (SGS in Ouagadougou) and transcribed directly into PDI's Access database. Geological and sampling information were all entered into templates by the field personnel and transcribed into PDI's Access database. The data has been entered by PDI's Chief Geologist, who is responsible for the database and checked for errors by Mr Paul Roberts, the Competent Person for the database integrity, by reference to original data files and his own geological observations.
Site Visits <i>Comment on any site visits undertaken by the Competent Person and the outcome of those visits. If no site visits have been undertaken indicate why this is the case.</i>	Golder did not conduct a site visit to the Bongou project location, due the preliminary nature of the Mineral Resource estimate and the scope of Golder's involvement at this stage of the project.

JORC Code Assessment Criteria	Comments
	The Competent Person for drill hole data and the supporting information, Mr Paul Roberts, has been on site for at least part of the time for all but the first drill program (which consisted only of one hole, BNGRC001). In addition, Mr Roberts check re-logged all of the mineralised intercepts after the last program of drilling was completed.
Geological Interpretation <i>Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.</i> <i>Nature of the data used and of any assumptions made.</i> <i>The effect, if any, of alternative interpretations on Mineral Resource estimation. The use of geology in guiding and controlling Mineral Resource estimation.</i> <i>The factors affecting continuity both of grade and geology.</i>	PDI is confident in the overall geological interpretation of the deposit. The bulk of the gold mineralisation is hosted in a continuous altered granite body. This is indicated by detailed geological mapping at a scale of 1:500 in the shallow artisanal workings carried out by Mr Roberts. In addition, Mr Roberts' surface mapping of the hanging wall geology in the same area demonstrates that the thin shear-bounded panels of granite within the gabbroic hanging wall rocks can be traced over 10s of metres along strike. The geological interpretation was completed by Golder based on the re-logged geology codes provided by PDI. The mineralisation was interpreted at a cut-off grade of 0.2 g/t Au. Three dimensional wireframe modelling was carried out using Vulcan® software. The current drill hole spacing provides an acceptable degree of confidence in the interpretation and continuity of grade and geology and the definition of the boundary between weathered and fresh mineralisation.
Dimensions <i>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.</i>	The mineralisation associated with the Bongou deposit extends in the strike direction (bearing of 060°) over a distance of approximately 240 m and approximately 115 m north-west. Drilling has intercepted Au mineralisation at up to 270 m below surface.
Estimation and Modelling Techniques <i>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.</i> <i>The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.</i> <i>The assumptions made regarding recovery of by-products.</i> <i>Estimation of deleterious elements or other non-grade variables of economic significance (e.g. sulfur for acid mine drainage characterisation).</i>	Statistical and geostatistical analyses were carried out on drilling data composited to 2 m downhole intervals. This included variography to model the spatial continuity of the grades within the mineralisation domains. Multiple Indicator Kriging (MIK) was used for estimation of the mineralisation and background domains using Golder proprietary software. The MIK approach included a change of support using the Indirect Lognormal correction using a 0.1 variance correction factor to emulate a selective open pit mining scenario. High-grade treatment was applied for the mineralisation domains using spatial restraining. High grade composites greater than 15 g/t Au were used only in the estimation of blocks within a 20 m by 20 m by 5 m radius of the high-grade composite in the plane of the mineralisation.

JORC Code Assessment Criteria	Comments
<i>In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.</i> <i>Any assumptions behind modelling of selective mining units.</i> <i>Any assumptions about correlation between variables.</i> <i>Description of how the geological interpretation was used to control the resource estimates.</i> <i>Discussion of basis for using or not using grade cutting or capping.</i> <i>The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.</i>	A geological block model was constructed with a parent cell size of 10 m (X) by 5 m (Y) by 5 m (Z) with sub-celling of 2 m (X) by 1 m (Y) by 1 m (Z) to achieve acceptable resolution of geological domains. Estimation was carried out within panels of dimensions 20 (X) by 10 (Y) by 5 m (Z) to achieve acceptable local estimation quality based on the nominal drill hole density and domain geometry. The resource estimate grades were validated globally comparing statistics by domains between blocks and samples. Visual inspection and swath plots were used for local validations. The change of support and model grade-tonnage curve was validated globally against a Discrete Gaussian change of support model.
Moisture <i>Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.</i>	Tonnages are estimated on a dry basis (see below for dry bulk density calculation details).
Cut-off Parameters <i>The basis of the adopted cut-off grade(s) or quality parameters applied.</i>	The resource model is constrained by assumptions about economic cut-off grades. The mineralisation domain in the geological interpretation is based on a nominal cut-off grade of 0.2 g/t Au. The Mineral Resources were reported using a range of cut-off grades between 0.4 g/t Au and 3.0 g/t Au, applied on a block by block basis.
Mining Factors or Assumptions <i>Assumptions made regarding possible mining methods, minimum mining dimensions and internal (or, if applicable, external) mining dilution.</i> <i>It is always necessary as part of the process of determining reasonable prospects 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.</i> <i>Where this is the case, this should be reported with an explanation of the basis of the mining assumptions made.</i>	The Mineral Resource estimation approach has assumed that mining will take place using an open pit, selective mining method. The vertical block size is 5 m, which forms the basis of the assumed vertical selectivity in the Mineral Resource estimate.

JORC Code Assessment Criteria	Comments
Metallurgical Factors or Assumptions <i>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.</i>	Metallurgical recovery was not directly accounted for in the resource estimation process, however a 95% process recovery was assumed in the pit optimisation process to guide the constraining of the Mineral Resource for reporting purposes. PDI has carried out one sighter metallurgical test on what it considers to have been a representative composite sample of unoxidised mineralisation from RC drilling (reported to the ASX on 14 May 2013). The sample was ground to 75 microns and subjected to a standard cyanide leach test over 72 hours which generated a 94% recovery. 90% of the gold was recovered in the first four hours indicating excellent leaching kinetics.
Environmental Factors or Assumptions <i>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.</i> <i>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.</i>	The Bongou site is located in a farming area. The terrain is largely very flat apart from a small hill directly to the north of the artisanal workings. Only about half of the surrounding area is cultivated, because of poor soils. PDI is confident that safe and secure waste storage will be achievable in this environment and areas for material storage can be located nearby with little or no risk of flood damage to waste and tailings storage areas.
Bulk Density <i>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.</i> <i>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.</i> <i>Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.</i>	Numerous dry bulk density measurements were conducted on the various lithologies present at Bongou using drill core. The procedure was as follows: (1) core samples were selected where the full core diameter was preserved, (2) the samples were dried in the sun so as to be completely devoid of moisture, (3) the rough ends of each core piece were cut off at right angles to the core angle, (4) the core length and diameter were measured as accurately as possible, (5) the core sample was weighed in air and (6) the dry bulk density was calculated by dividing the dry mass of the sample by the calculated volume. Average dry bulk density values were assigned to the block model by geological domain based on average values calculated from 205 density measurements.

JORC Code Assessment Criteria	Comments
Classification <i>The basis for the classification of the Mineral Resources into varying confidence categories.</i> <i>Whether appropriate account has been taken of all relevant factors, i.e. 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.</i> <i>Whether the result appropriately reflects the Competent Person(s)' view of the deposit.</i>	The Mineral Resources were classified according to the following criteria and assumptions: ■ Indicated Resources: the area of Bongou classified as Indicated Resources has three sections spaced at 40 m with drill holes at 40 m centres on-section. The kriging slope of regression was used as a guide, with the aim that the region classified as Indicated Resources is generally supported by blocks with a slope greater than 0.6. ■ Inferred Resources: all remaining estimated blocks. ■ Extrapolation of mineralisation from drill hole was limited to 20 m to 30 m, generally half of the nominal drill hole spacing on section. ■ A Lerch-Grossman pit shell was used to constrain the depth of the extent of the Mineral Resource classification and reporting of the Mineral Resource. The pit shell was constructed using a US\$40/g Au price, mining costs of approximately US\$3/t mined, processing and administration costs of approximately US\$23/t milled, and a revenue factor of 2.0 to allow for potential increases in Au price. Assumed dilution and recovery factors were 5% mining dilution, 95% mining recovery and 95% process recovery.
Audits or Reviews <i>The results of any audits or reviews of Mineral Resource estimates.</i>	No audits or reviews have been undertaken on this Mineral Resource estimate.
Discussion of Relative Accuracy/Confidence <i>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.</i> <i>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.</i> <i>Documentation should include assumptions made and the procedures used.</i> <i>These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.</i>	The relative accuracy is reflected in the Mineral Resource classification discussed above that is in line with industry acceptable standards. This is a Mineral Resource estimate that includes knowledge gained from previous mining in the form of surface mapping to guide the geological interpretation and location of previously mined volumes.

COMPETENT PERSONS' STATEMENT

The input data, including the drill hole dataset, topography and geology interpretation used in the Mineral Resource estimates and Exploration Targets for the Bongou deposit is based on information and supporting documentation compiled by Mr Paul Roberts. Mr Roberts is a full-time employee of Predictive Discovery Ltd and a Fellow of the Australasian Institute of Geoscientists. Mr Roberts has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken to qualify as a Competent Person as defined in the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (2012 Edition). Mr Roberts consents to the inclusion of the drill hole data, topography and geological interpretation and the supporting information in the form and context in which it appears in this statement.

The Mineral Resource estimation and classification of Mineral Resources and Exploration Targets for the Bongou deposit is based on, and fairly represents, information and supporting documentation compiled by Mr Richard Gaze. Mr Gaze is a full-time employee of Golder Associates Pty Ltd and a Member and Chartered Professional of the Australasian Institute of Mining and Metallurgy. Mr Gaze has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken to qualify as a Competent Person as defined in the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (2012 Edition). Mr Gaze consents to the inclusion of the estimates, classification and the supporting information in the form and context in which it appears in this statement.

Yours faithfully

GOLDER ASSOCIATES PTY LTD



Richard Gaze
Principal



Alan Miller
Associate

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