Multiple New Gold Targets Near Bongou Gold Prospect

- **More than 20 gold anomalous targets identified.**
- **Infill drilling and trenching under way to follow-up strong results.**
- **Results provide strong encouragement of potential to discover additional high-grade gold mineralisation near the existing Bongou Gold Prospect.**

Predictive Discovery (ASX: PDI) is pleased to announce that power auger drilling around its high-grade Bongou Gold Prospect in Burkina Faso, West Africa, has revealed **more than 20 gold anomalous targets** for follow up testing (Figure 1).

The Company has already commenced an infill power auger drilling program to follow up these highly encouraging results. Ongoing trenching is also in progress to follow-up new infill power auger results and to identify priority targets for the next RC drilling program.

Results from the infill program are expected to be released in early June.

Bongou Background

The Company's recent drilling programs at Bongou have revealed a significant body of **high-grade gold mineralisation** with **a small surface area** (Figure 1). Results from power auger drilling and reconnaissance RC drilling have also shown that the Bongou prospect is **not an isolated occurrence** as similar granite-hosted mineralisation has now identified nearby at several targets (Figure 1). The potential for making new Bongou-style gold discoveries close to Bongou has been enhanced by these new power auger results.

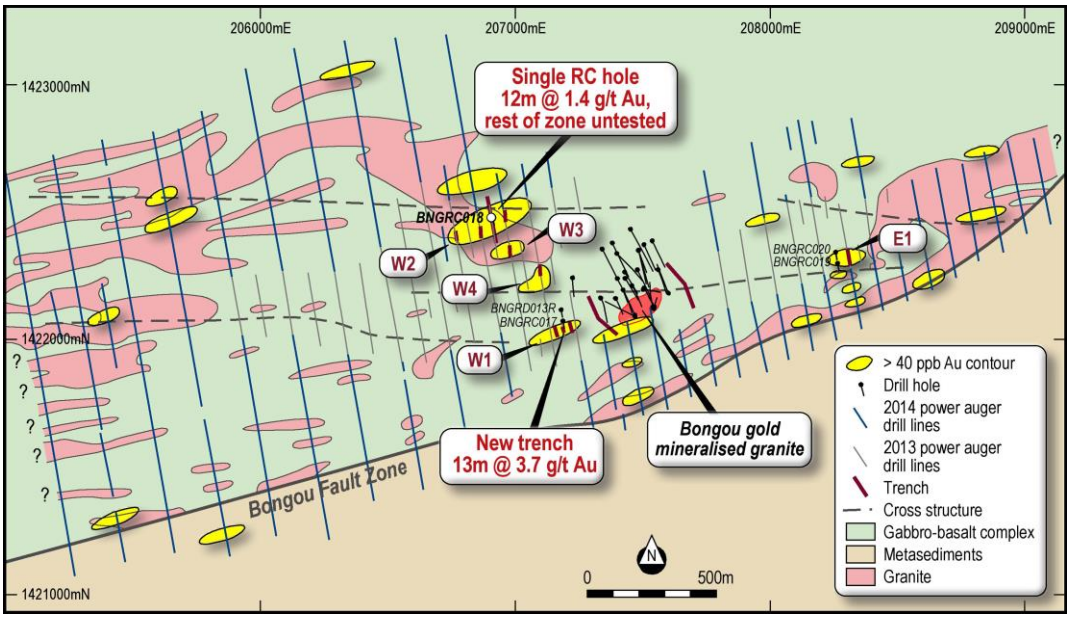

Figure 1: Interpreted geological map of the area surrounding Bongou, highlighting the many unexplored granite bodies under thin cover and showing the location of the 2013 and April 2014 power auger drilling. The locations of the granite bodies have been interpreted from samples with low Ti/Zr ratios in power auger samples, supported by mapping of the few granite outcrops in the area. Note the strike length of the Bongou mineralised body relative to that of the new gold anomalies.

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: 1.0 cents

Market Capitalisation: $4M

Cash (at 31st March 2014): $1.6M

Directors

Phillip Harman
Non-Exec Chairman

Paul Roberts
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The Bongou mineralised body is a thick, steeply plunging gold mineralised granite body. Average true widths intersected from 13 holes drilled in the high grade body **were 31.6m with average grades of 2.9 g/t Au**, most with a significant high-grade component, for example **13.2m at 9.7g/t Au** (the relevant drill results were reported to the ASX on 2nd December 2013, 16th December 2013, 20th March, 2014 and 1st April, 2014).

The Bongou mineralisation covers a surface area 150m long and up to 60m wide at its thickest point. PDI has been actively undertaking power auger drilling and trenching to identify additional occurrences similar in style and size to Bongou close to Bongou itself. Individually, these are quite small targets so the Company's approach is to drill a large number of auger holes on a pattern designed to detect such mineralisation in at least one or two holes, which will allow the company to focus its future drilling on any anomalous areas detected.

Power Auger Drill Program

PDI completed 964 power auger drill holes, totalling 4,005m, within a 2km radius of Bongou in the first three weeks of April, 2014, and these were drilled on a 100 x 25m^2 or 200 x 25m^2 pattern, with the aim of following up all anomalous results with infill drilling. Drill samples were collected from the interface position between soil and weathered bedrock.

The April 2014 power auger drilling program generated 19 new gold anomalies with values exceeding 40ppb gold and peak values of up to 397ppb (Figures 1 and 4). Gold anomalies are typically found on or close to interpreted granite-gabbro contacts. The drill program also demonstrated that the small granite intrusive bodies in this area extend throughout the current drill grid with gold anomalies close to both the eastern and western ends, thereby indicating that further exploration along strike is warranted.

Previous work has shown that gold values in weathered altered granite are depleted relative to underlying primary mineralisation. A mixture of soil and weathered rock could be expected to be even lower in grade than weathered granite alone. Therefore, PDI considers that any gold values above 40ppb are significant and require closer-spaced, follow-up power auger drilling and/or trenching.

Samples were assayed at the SGS laboratory in Burkina Faso. Additional details on the sampling are provided in Table 1 at the end of this release. Sample locations and anomalous value ranges are shown on Figure 4.

Follow-up Work Program

PDI's immediate follow-up work program near Bongou, to be undertaken this month, consists of the following:

- Power auger drilling of all gold anomalous locations from the April power auger program on a closer spaced drill density of 50 x 12.5m^2 to better define these anomalies;

- Power auger drilling of 600m extensions to the April drill grid to both the east and west on a drill density of 200 x 25m^2;
- Ongoing trenching on gold anomalous areas where prior sampling has already outlined coherent gold anomalies.
- Ongoing trenching on the margins of the Bongou gold mineralised granite to help define its shape in the near-surface.

Results from this work will be used to define RC drilling targets.

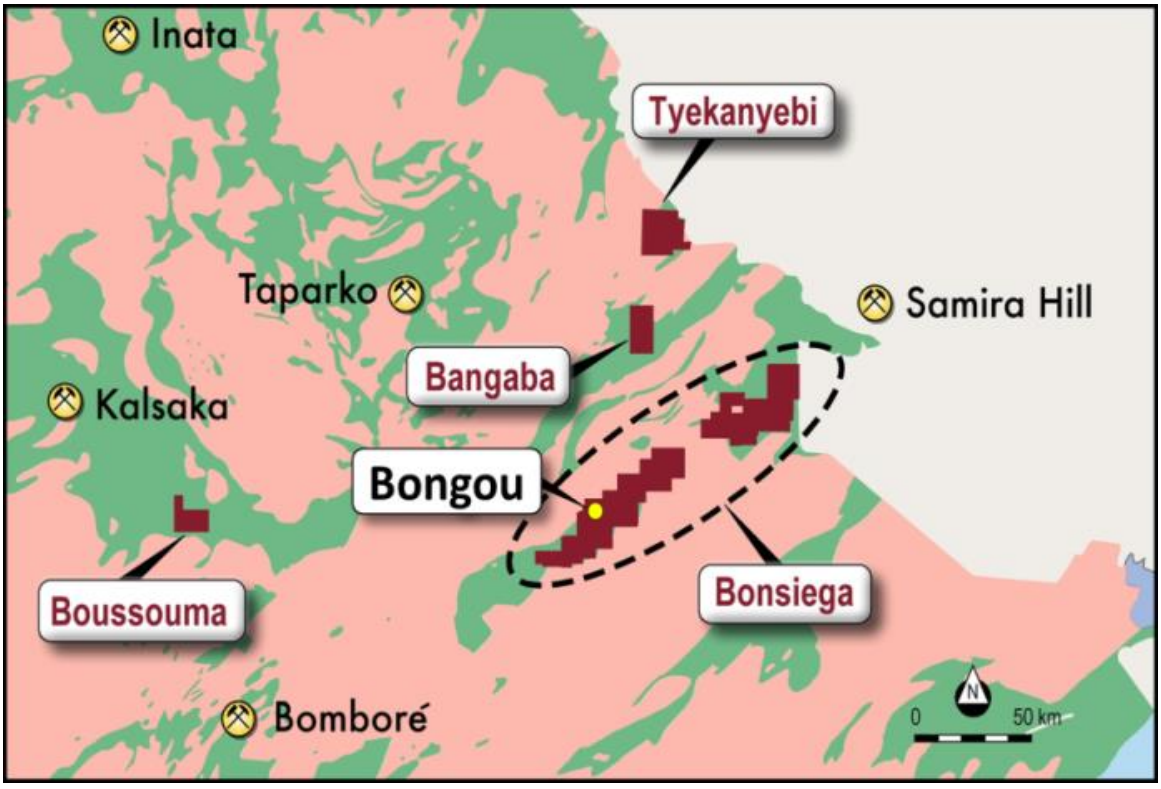

Figure 2: Location of PDI permits in eastern Burkina Faso highlighting the location of the Bongou Prospect. Pink is mostly granite and green is greenstone (mafic volcanics and volcanic-derived sediments).

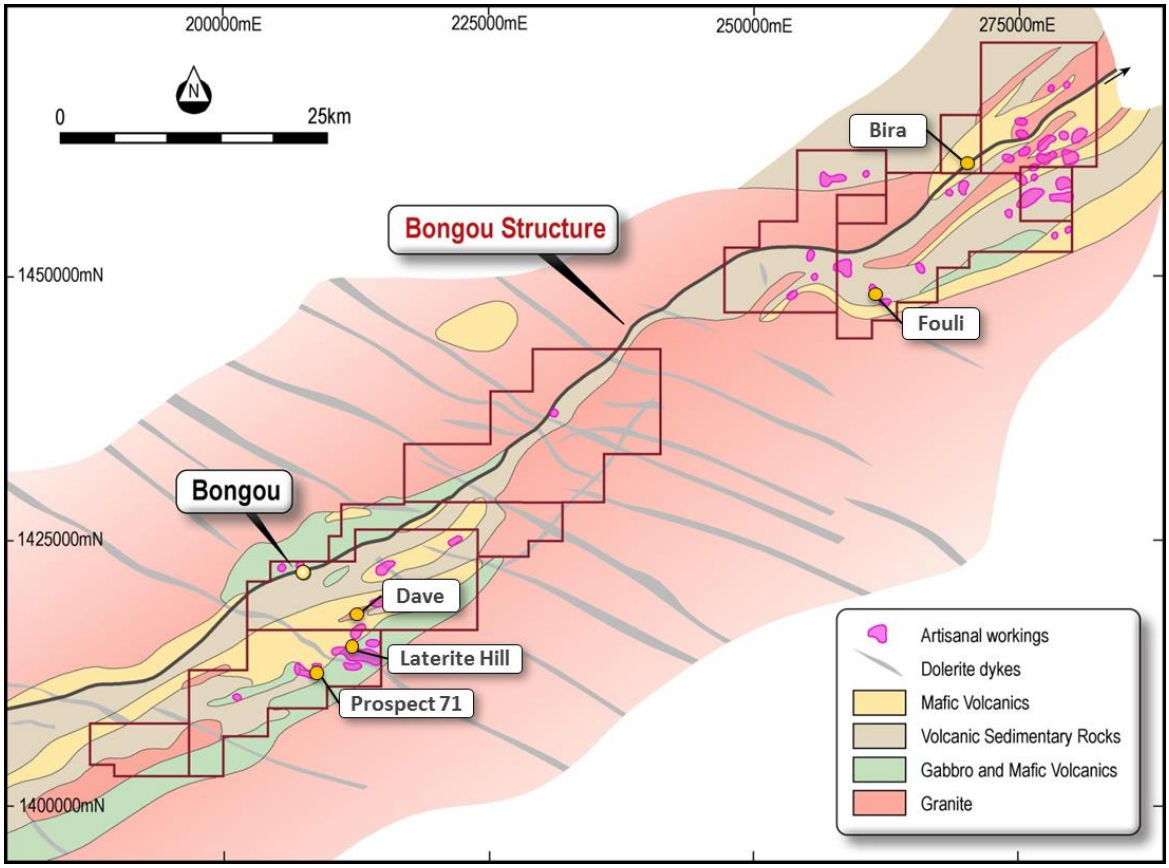

Figure 3: Geology of Bonsiega Project in eastern Burkina Faso, showing location of the Bongou Prospect with respect to the major Bongou Fault, and highlighting the abundance of artisanal workings throughout the area.

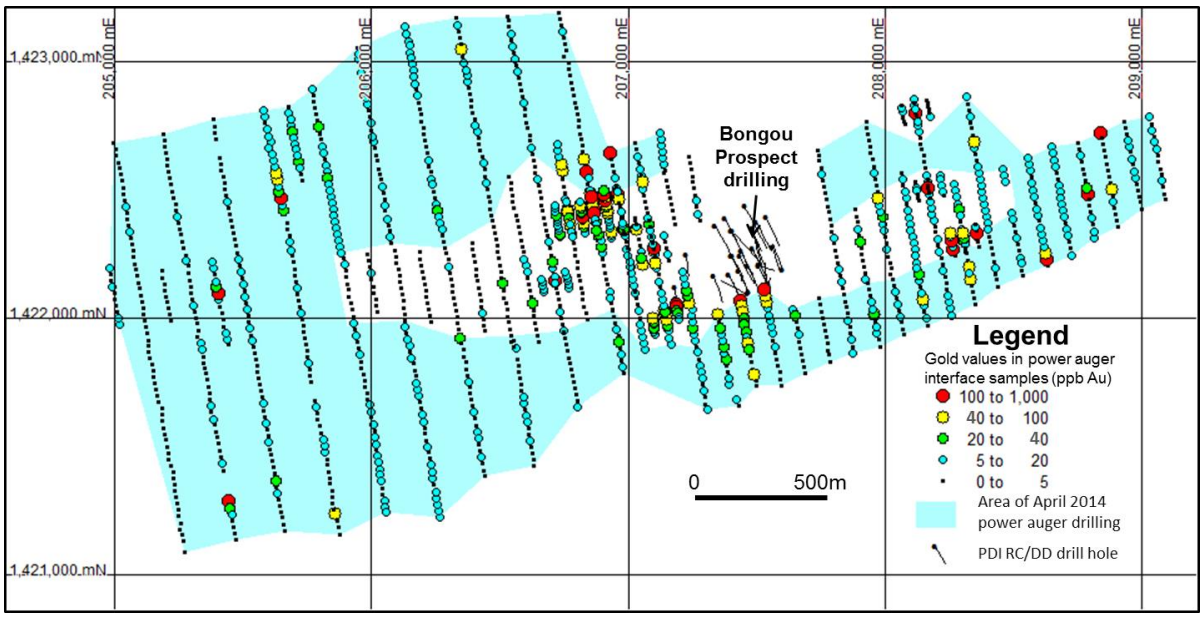

Figure 4: Power auger drill locality plan showing location of April power auger drill program (pale blue) and gold values in parts per billion.

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 1,605km^2 and is exploring for large open-pittable 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 in the past 12 months. PDI also has interests in a strategic portfolio of tenements in Cote D'Ivoire covering a total area of 1534 km^2.

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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TABLE 1 – Summary of power auger holes reported in this release

Hole Numbers	Northing (WGS84-31N	Easting (WGS84 – 31N)	RL	Hole dips	Azimuth	Hole Depth	From	Interval	Au (ppb)
MADAU2523 to 3461	Refer to Figure 4 for map location of auger collars	Refer to Figure 4 for map location of auger collars	See notes	All holes were drilled vertically	All holes were drilled vertically	Average hole depth was 4.3m. Minimum hole depth was 1m, maximum hole depth was 12m	See notes	See notes	See notes and Figure 4

Notes: Power auger drilling is a reconnaissance exploration technique. Typically the last metre of each auger hole represents in situ material. PDI's practice is to collect an interface sample over approximately 1m which is therefore generally the second last metre of each drill hole. Results are therefore presented in Figure 4 of this announcement as the second last metre drilled for each auger hole. Individual drill hole intersections are not reported in this announcement. The average RL over the area is 278m. The area is mostly a flat to gently undulating plain with very little variation between adjacent holes; individual RLs are not reported in this announcement because they are not relevant to interpreting geochemical data of this type.

Section 1: Sampling Techniques and Data		
Criteria	**JORC Code Explanation**	**Commentary**
Sampling Technique	Nature and quality of sampling (eg cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as downhole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used. 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 (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.	The sampling described in this report was undertaken as part of a power auger drilling program. In the vast majority of drill holes, 1-2kg samples were collected at the interface between soil and weathered bedrock. Where the drill hole did not penetrate through to weathered bedrock, samples were collected from the bottom of the hole. The samples were collected for gold assaying at the SGS laboratory in Ouagadougou using an aqua regia method with a 1ppb detection limit. All interface samples were scanned using a hand-held XRF machine, primarily to obtain Ti/Zr ratios which are used to help interpret whether the weathered bedrock consists of felsic (i.e. granitic) or mafic (i.e. basalt or gabbro) material.
Drilling	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).	The drilling was carried out using a 4WD-mounted power auger rig.
Drill Sample Recovery	Method of recording and assessing core and chip sample recoveries and results assessed. Measures taken to maximise sample recovery and ensure representative nature of the samples. 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.	Sample recovery is not assessed for power auger drilling as it is a geochemical method. In general, however, recoveries are good because the hole has to be cleared by the screw-type rods in order for the drill rods to advance downwards.

Logging	Whether core and chip samples have been geologically and geotechnical logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies. Whether logging is qualitative or quantitative in nature. Core (or costean/Trench, channel, etc) photography. The total length and percentage of the relevant intersections logged.	None of these samples will be used in a Mineral Resource estimation. Nonetheless, all power auger holes were geologically logged in a qualitative fashion.
Sub-Sampling Technique and Sample Preparation	If core, whether cut or sawn and whether quarter, half or all core taken. If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry. For all sample types, the nature, quality and appropriateness of the sample preparation technique. Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples. 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. Whether sample sizes are appropriate to the grain size of the material being sampled.	All of the sample is submitted for assay so no sub-sampling is required and the sample is representative of what is in the hole. The analytical method used was an SGS aqua regia method with a low detection limit (1ppb) which is appropriate for a geochemical drilling program. A limited number of external standards and blanks were included with the submitted samples. Based on these results and SGS's own repeat results, the analytical results are judged to be suitable for distinguishing gold anomalous samples from barren samples. XRF measurements of Ti and Zr to help interpret the presence of granite or mafics was carried out using an OlympusDelta Premium DP-4000 Premium Exploration Analyser. The required calibrations were carried out prior to making these measurements.
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. 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. 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.	
Verification of Sampling and Assaying	The verification of significant intersections by either independent or alternative company personnel. The use of twinned holes The verification of significant intersections by either independent or alternative company personnel. Discuss any adjustment to assay data	Hole twinning is not normally practised with geochemical drilling of this type.

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. Specification of the grid system used Quality and adequacy of topographic control	Collar locations were obtained using a hand held GPS with a location error of +/- 3m. Drill collar locations are shown on Figure 4 which provides both a scale and coordinates. The coordinates are recorded in Universal Transverse Mercator (UTM), Datum WGS 84, Zone 31 - Northern Hemisphere.
Data Spacing and Distribution	Data spacing for reporting of Exploration Results 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. Whether sample compositing has been applied	The drill holes are spaced 25m apart along lines either 100m or 200m apart. This type of drilling is not appropriate for the calculation of any Mineral Resource estimate.
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. 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.	The power auger drill lines are oriented at approximately 90 degrees to the general strike direction.
Sample Security	The measures taken to ensure sample security	Reference samples are stored at PDI's sample store in Ouagadougou, Burkina Faso.
Section 2 Reporting of Exploration Results		
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. 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 Bongou Prospect lies entirely within the Madyabari Permit (Arrêté N°2011 /11/352/MCE/SG/DGMGC) which covers an area of 172 sq km. 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. The company 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 that company completes meets the Government's legal requirements, which it fully intends to do. 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 ore deposits 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 PDI 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.
Exploration Done by Other Parties	Acknowledgment and appraisal of exploration by other parties.	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	Deposit type, geological setting and style of mineralisation.	Mineralisation in the main Bongou deposit prospect consists of an intensely altered (silica-albite) and quartz veined granite body which lies sandwiched between a sheared gabbro on the mineralisation's northern margin and a basalt body (partly sheared) on its 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. Such mineralisation was the target of the reported power auger drill program. Recognition of most of the alteration mineralogy in the power auger samples is not possible as they are intensely weathered. The main Bongou mineralised zone lies within a large structure which is approximately 43km long within three contiguous permits owned 100% by the company (Madyabari, Bassieri and Tamfoagou). 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	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: • easting and northing of the drill hole collar • elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar • dip and azimuth of the hole • down hole length and interception depth • hole length • 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.	See Table 1 and the notes that accompany it. Individual hole results from the 964 holes completed in this program are not reported as the Material information required for understanding and interpreting geochemical results of this type is contained in a map showing drill hole locations and assay results in representative value ranges, both of which are provided in Figure 4.
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. 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. The assumptions used for any reporting of metal equivalent values should be clearly stated.	No weighted averaging or truncation methods were used.
Relationship Between	These relationships are particularly important in the	True widths cannot be estimated for this type of geochemical drilling as both "flat-dipping" soils and steeply dipping underlying weathered bedrock

Mineralisation Widths and Intercept Lengths	reporting of Exploration Results If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported. 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').	is sampled .
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.	An appropriate plan is included with this document (Figure 4).
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.	The range of power auger gold assays shown on Figure 4 meets this requirement.
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; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.	Apart from the earlier power auger results that were reported previously (see ASX release dated 26th July 2013), the interpreted geology which is provided in Figure 1 and contextual information provided in this table, there is no other exploration data which is relevant to the results reported in this release.
Further Work	The nature and scale of planned further work (eg tests for lateral extensions or large scale step out drilling. Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.	Further drilling is planned to test for more Bongou-style mineralised bodies. Follow-up infill power auger drilling is planned. Promising results will then be followed up further, where practical, with trenching and RC drilling.