



19th May 2015

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: 651M shares

Share Price: 0.5 cents

Market Capitalisation: \$3.3M

Directors

Phillip Jackson
Non-Exec Chairman

Paul Roberts

Managing Director

Phil Henty
Non-Executive Director

Tim Markwell Non-Executive Director

Predictive Starts Drilling near Bongou

Predictive Discovery Limited (ASX: PDI) is pleased to announce that a combined reverse circulation (RC) and air core drilling program totalling 4,000m has commenced on areas near the Bongou gold discovery in Burkina Faso.

The drill program will test six prospects where recent exploration has provided strong encouragement for the discovery of gold mineralisation that could add to the high-grade gold resource already announced at Bongou¹. All of the targets lie within 10km of Bongou:

- Target 92 where power-auger drilling in March-April 2015 identified a new, 3km long gold anomaly including values of 4.1g/t Au, 3.1g/t Au and 1.5g/t Au².
- Three drill targets all within 2km of **Bongou** where previous geological mapping, power-auger drilling and trenching has revealed **Bongou-style** altered granite gold mineralisation and a fourth testing possible a southwest extension of the Bongou gold deposit.
- □ **Prospect 71** where power-auger drilling in January 2015 revealed several strong anomalies including values of 4.7g/t Au and 1.8g/t Au³. RC drilling in 2012 intersected 24m at 2.1g/t Au⁴ in one of the lower tenor anomalies.
- □ Target 11 where recent infill power-auger drilling obtained values of up to 1.4g/t Au and 1.1g/t Au (new data reported here).
- Target 75 where recent power-auger drilling testing a fault intersection with the Dave gold mineralised structure obtained values of up to 0.7g/t Au (new data reported here).
- □ **Target 4** where ground magnetics has revealed a possible granite body under cover within the Bongou Fault and with potential for Bongou-style granite-hosted gold mineralisation (new data reported here).

Mr Paul Roberts, PDI's Managing Director said: "Predictive is entirely focused on identifying and defining high quality resource ounces which can add to our high grade Bongou gold discovery¹. To this end, we have been working systematically and diligently throughout the current field season to prioritise the most prospective drill locations out of the nearly 100 structural targets that we identified near Bongou in late 2014.

We have been very encouraged by the preliminary results on all of the planned drill locations and we look forward to sharing the new drill assays with the market in June 2015."

¹184,000oz in the Inferred and Indicated Mineral Resource categories with an average grade of 2.6g/t Au including 136,000oz at 3.8g/t Au (ASX release dated 4 September, 2014)

² Reported to the ASX on 24th April 2015 and 7th May 2015.

³ Reported to the ASX on 20th February 2015.

⁴ This drill result was first reported to the ASX on 23rd April 2012 and 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.



Introduction

PDI has identified nearly 100 exploration targets near the high grade Bongou gold discovery¹ (Figure 1) through a rigorous ranking process focused on prospects with Bongou-like geological and geophysical characteristics.

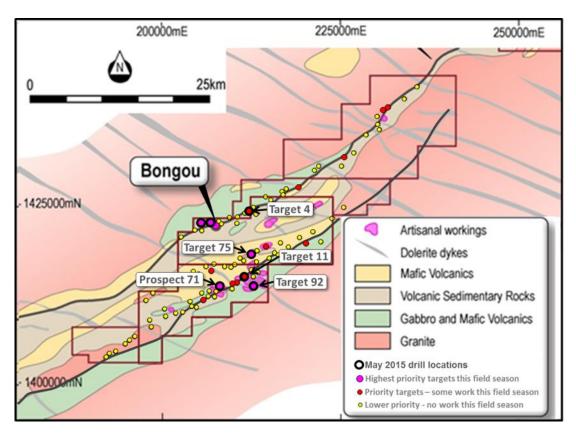


Figure 1: Locality map of PDI permits near Bongou in eastern Burkina Faso, showing Bongou gold deposit and locations where RC and/or air core drilling will take place in the current program.

Drilling Program

A 4,000m drill program consisting of reverse circulation (RC) and air core drilling commenced on 14th May. The program is being conducted by Major Drilling using a UDR650 drill rig with both air core and RC drill capabilities. The drilling will test targets in six different areas, as follows:

1. Targets within 2km of Bongou

Drilling will be carried out at four locations at and near Bongou (Figure 2):

Target W2, where PDI drilling in 2014 intersected 12m at 1.4 g/t Au in a one-hole RC drill test².

2

¹184,000oz in the Inferred and Indicated Mineral Resource categories with an average grade of 2.6g/t Au including 136,000oz at 3.8g/t Au (ASX release dated 4 September, 2014)

² Reported to the ASX on 1st April 2014



- Target W8, which coincides with a 60m long artisanal open pit working and where PDI's power auger sampling and trenching in 2014 obtained values of up to 2.0g/t Au and 2.2g/t Au respectively³.
- Target W7, which coincides with a plus 100ppb Au power auger anomaly extending over at least 100m of strike. Artisanal miners have sunk some shafts at this site in the past 12 months, revealing Bongou-style altered granite with disseminated pyrite (iron sulphide) and an adjacent sheared gabbro, the same combination of rocks and alteration that occur at Bongou itself.
- Immediately south-west of Bongou, where a possible new concealed mineralised lens has been postulated in an "en echelon" arrangement (Figure 3).

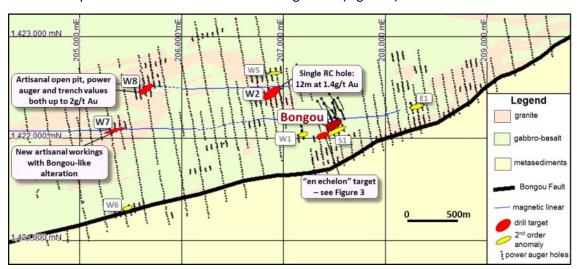


Figure 2: Drill target locations at and near Bongou (quoted exploration results were reported to the ASX on 1^{st} April 2014).

2. Target 92 (10km from Bongou)

Target 92 was identified as a high priority location in PDI's Bonsiega rainy season project review in 2014. The target area overlaps a large area of surficial artisanal gold workings and coincides with a large east-west structure interpreted from magnetic data. PDI's exploration around Bongou in 2014 showed that such east-west features may have controlled the location of gold mineralisation in this area.

Power auger drilling in March and April 2015 revealed a large gold anomalous area at a 25ppb Au cut-off extending **the full 2.8km length of the grid** over a **width of between 200m and 600m** (Figure 4). Within this zone, there are multiple areas with values above 50ppb Au. Of these, the largest (Target 92-South, Figure 4) is **2km long and up to 200m wide**. Encouraging gold values were recorded on the grid including **4.1g/t Au**, **3.2g/t Au and 1.5g/t Au**⁴ (Figure 4). The infill results also confirmed line to line continuity at the 50ppb Au level, especially on the T92-South

⁴ Reported to the ASX on 24th April 2015 and 7th May 2015

³ Reported to the ASX release on 30th July 2014



anomaly (Figure 4). This coincides partly with a magnetic feature identified in February and is interpreted to indicate a mineralised structure, possibly a shear zone.

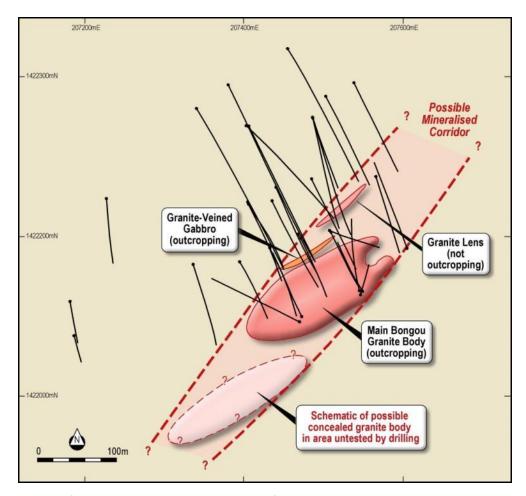


Figure 3: Map of Bongou, showing possible location of another concealed mineralised granite lens southwest of the main granite body. The "en echelon" arrangement of mineralised granite bodies suggests that they are located within a north-east trending mineralised corridor.

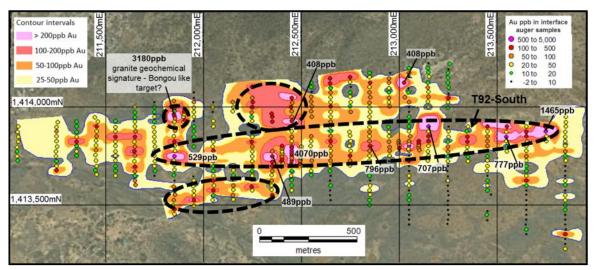


Figure 4: Target 92 - gold geochemical anomaly contour plan on satellite imagery background. Results reported to the ASX on 24^{th} April 2015 and 7^{th} May 2015.



3. Prospect 71 (8km from Bongou)

Two parallel gold anomalous zones have been identified since in the past 4 months – P71-North and P71-South (Figure 5). These both correlate with structures identified in a recent ground magnetic survey (ASX release dated 20th February 2015).

Drilling completed in 2012 intersected **24m at 2.1 g/t Au from 26m**⁵ in RC drill hole PSORCO41, which lies within the weaker, northern gold anomaly (see Figure 5). At the time of drilling, the interpreted strike direction of the drill targets was NNE, based on the orientation of nearby artisanal mine workings. PDI's new ground magnetic survey has changed this interpretation by indicating the presence of a NW oriented structure through the target and thereby provided guidance for the current phase of drilling.

The southern, stronger anomaly (Figure 5) contains a series of strongly anomalous values including **4.7g/t Au and 1.8g/t Au** (ASX releases dated 20th February 2015 and 24th April 2015).

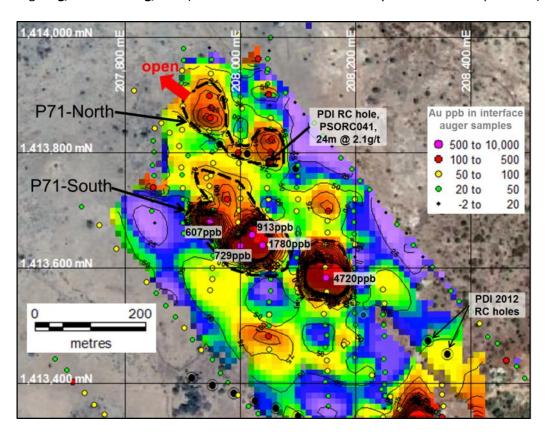


Figure 5: Prospect 71 contoured gold geochemical data plot on satellite imagery background. Contour intervals are 25ppb Au up to a maximum value of 400ppb Au. Individual auger locations are colour coded by grade interval. Results reported to the ASX on 20th February 2015 and 24th April 2015.

-

⁵ This drill result was first reported to the ASX on 23rd April 2012 and 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.



4. Target 11 (9km from Bongou)

This target was prioritised because it is located on an east-west structure interpreted from regional magnetic data close to where it intersects with a large north-east orientated fault zone. The target also partly coincides with areas of surficial artisanal workings.

Two earlier phases of power auger drilling had identified anomalous values peaking at **0.5 g/t Au** (reported to the ASX on 20th February and 24th April 2014).

Infill drilling in April, totalling 505m, outlined three strongly anomalous zones with peak values of **1.4g/t Au and 1.1g/t Au** (Figure 6). The anomalies are open both to the east and the west.

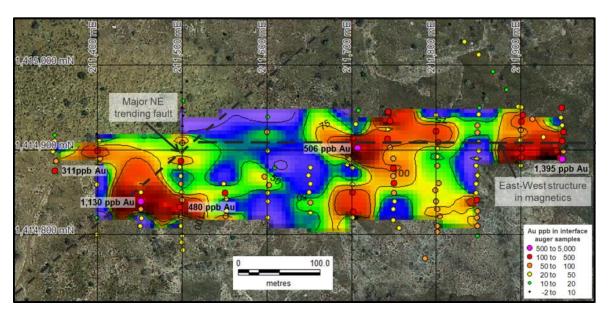


Figure 6: Target 11 contoured gold geochemical data plot on satellite imagery background. Contour intervals are 25ppb Au up to a maximum value of 100ppb Au. Individual auger locations are colour coded by grade interval.

Target 75 (6km from Bongou)

Like Target 11, this location was prioritised because it is located on an east-west structure interpreted from regional magnetic data intersecting an ENE oriented structure.

The ENE fault zone controls the Dave Prospect gold mineralised zone, 2km ENE of Target 75. Previous PDI RC and diamond drilling there obtained numerous gold intersections over a strike length of approximately 3km.

New power-auger drilling by PDI in April 2015, totalling 483m, obtained a peak value of **0.7g/t Au** in a single anomalous zone approximately 200m long (Figure 7). The anomaly is located exactly where the two interpreted structures intersect.



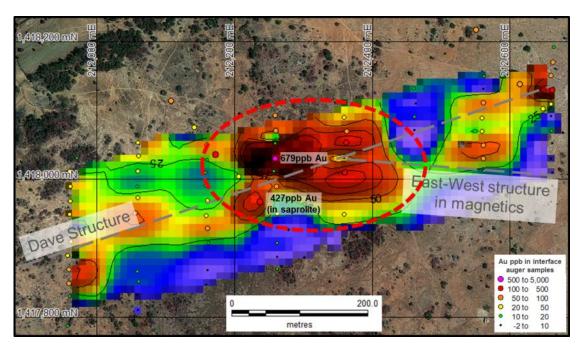


Figure 7: Target 75 contoured gold geochemical data plot on satellite imagery background.

Contour intervals are 25ppb Au up to a maximum value of 100ppb Au. Individual auger locations are colour coded by grade interval.

Target 4 (5km from Bongou)

This target was identified as being of potential interest in 2013. Earlier attempts to sample it with power-auger drilling proved unsuccessful because alluvial cover there is approximately 20m thick. A ground magnetics survey in March 2015 revealed what appears to be a granite or another type of intrusive located within the Bongou Fault. As Figure 8 shows, this body appears to disrupt a rock contact on its northern side. The inferred intrusive is significantly larger than the Bongou granite and appears to be located within the Bongou Fault, an identical setting to Bongou itself.

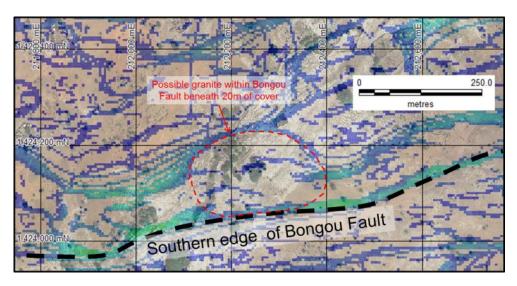


Figure 8: Ground magnetic data processed by wavelet analysis (or "worming) over Target 4 on satellite imagery background



TABLE 1 – POWER AUGER RESULTS

Power Auger Drillholes – Sample Results									
Power auger hole Numbers	Northing (WGS84- 31N)	Easting (WGS84 – 31N)	RL	Hole dips	Azimuth	Hole Depth	From	Interval	Au (ppb)
4639 and MADAU4117-	for map	Refer to Figures 6 and 7 for map location of auger collars	notes		were drilled vertically	Average hole depth was 6.0m. Minimum hole depth was 2m, maximum hole depth was 12m			See notes and Figures 6 and 7.

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. Except as follows, results presented in Figures 6 and 7 of this announcement are for the second last metre drilled of each auger hole. 19 of the Madyabari samples are from saprolite, however, and therefore from the last metre of the hole. Individual drill hole intersections are not reported in this announcement. The average RL over the two grids is 269m. Both areas are mostly on flat plains 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 refers to power auger drill samples samples. In all the power auger drill holes reported here, 1-2kg samples were collected at the interface between soil and weathered bedrock. Results from holes where the drill hole did not penetrate through to weathered bedrock are not reported here as they are not considered an effective geochemical test of these locations because of the abundance of transported material overlying the bedrock. The samples were collected for gold assaying at the SGS laboratory in Ouagadougou using an aqua regia method with a 1ppb detection limit.	
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	The power drilling was carried out using a 4WD-mounted power auger rig.	



	tube, depth of diamond tails, face- sampling bit or other type, whether core is oriented and if so, by what method, etc).	
Drill Sample Recovery	Method of recording and assessing core and chip sample recoveries and results assessed. Measures taken to maximise	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.
	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.	
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.	None of these samples will be used in a Mineral Resource estimation. Nonetheless, all power auger holes were geologically logged in a qualitative fashion.
	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.	
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.	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.
	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.	



	T	
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.	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.
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 power auger drilling.
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 located using a hand held GPS with a location error of +/- 3m. Collar coordinates referenced in the table are for 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	Power auger holes were spaced either 10m or 20m apart. Line spacings were either 50m or 100m. 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.	North-south line orientations were employed at Target 11 and 75 based on the targeting of east-west oriented interpreted structures at both locations.
Sample Security	The measures taken to ensure sample security	Reference samples are stored at PDI's sample store in Ouagadougou, Burkina Faso.
	Section 2 Repor	ting 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.	Target 11 lies within the Sirba Permit (Arrêté N°2014/14/296/MCE/SG/DGMGC) which covers an area of 137 sq km. Target 75 lies within the Madyabari permit (Arrete N°2014/14/295/MCE/SG/DGMGC) which covers an area of 172 sq km. There are no overriding reserves or national parks over either 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 Sirba and Madyabari permits were initially acquired, along with two other nearby permits (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 Sirba and Madyabari along with the two 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 acc
Exploration Done by Other Parties	Acknowledgment and appraisal of exploration by other parties.	Past exploration over target areas consisted of wide spaced soil sampling and an aeromagnetic survey.
Geology	Deposit type, geological setting and style of mineralisation.	Known mineralisation in the target areas consists of shear hosted mineralisation in a variety of rock types – mafic volcanics, metasedimentary rocks and mafic/intermediate intrusives. 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 • lf 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 power auger hole results from the 164 holes described herein 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 Figures 6 and 7.
Data Aggregation Methods	In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations	No weighted averaging or truncation methods were used for the power auger results.



	(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	
Relationship Between Mineralisation Widths and Intercept Lengths	values should be clearly stated. These relationships are particularly important in the reporting of Exploration Results If the geometry of the mineralisation with respect to	True widths cannot be estimated for the power auger drill results as both "flat-dipping" soils and steeply dipping underlying weathered bedrock is sampled.
	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').	
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.	Appropriate maps are provided in Figures 6 and 7.
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 ranges of power auger gold assays shown on Figures 6 and 7 meet 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.	Previous power auger results from Target 11 were reported to the ASX on 20th February and 24th April 2014. Apart from those, there are no other exploration data which are 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.	Air core and/or RC drilling is planned to test higher tenor anomalies on both prospects in May 2015.



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-pittable gold deposits. Exploration in eastern Burkina Faso has yielded a large portfolio of exciting gold prospects, including the high grade Bongou gold deposit on which a resource estimate was calculated in September 2014. PDI also has interests in a strategic portfolio of tenements in Côte D'Ivoire covering a total area of 1,533 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.

For further details please contact:

Paul Roberts Ric Moore

Managing Director Company Secretary

Tel: +61 402 857 249 Tel: +61 8 6143 1840

Email: Email:

<u>paul.roberts@predictivediscovery.com</u> <u>rmoore@auroraminerals.com</u>