



15th September 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: 0.3 cents

Market Capitalisation: \$1.95M

Directors

Phillip Jackson
Non-Exec Chairman

Paul Roberts
Managing Director

Phil Henty
Non-Executive Director

Tim Markwell
Non-Executive Director

High Grade Gold Results from Cote D'Ivoire JV

Predictive Discovery Limited (ASX:PDI) is pleased to report on new results from exploration of the Company's Kokoumbo permit in Cote D'Ivoire by Joint Venture partner, Toro Gold Limited. Highlights include:

- Rock chip and selective quartz samples with high values including **98g/t Au**, **54g/t Au**, **44g/t Au** and **23g/t Au**.
- Widespread, strong soil gold geochemical anomalies with peak values of **5.6g/t Au**, **3.4g/t Au** and **3.3g/t Au**:
 - A 6km long WNW trending gold in soil anomaly on the contact with an interpreted granite body and coinciding with PDI's strongest stream sediment anomaly on the permit.
 - A strong gold anomaly covering more than 2 km² including the historic Kokoumbo Mine workings
- 4,886 soil, rock and trench samples were collected at Kokoumbo in the recent program. A follow-up geochemical program is now planned.
- Assays are awaited for 3,590 samples from Toro's soil and rock chip sampling programs on Predictive's Boundiali and Ferkessedougou exploration permits.

Mr Paul Roberts, the Predictive's Managing Director said: *"Toro Gold is making excellent progress on Predictive's ground in Cote D'Ivoire as these new results demonstrate. They have continued their exploration program throughout the rainy season, which indicates their commitment to exploring our ground. We look forward to releasing more news from Toro's work on our Cote D'Ivoire permits as results come to hand."*

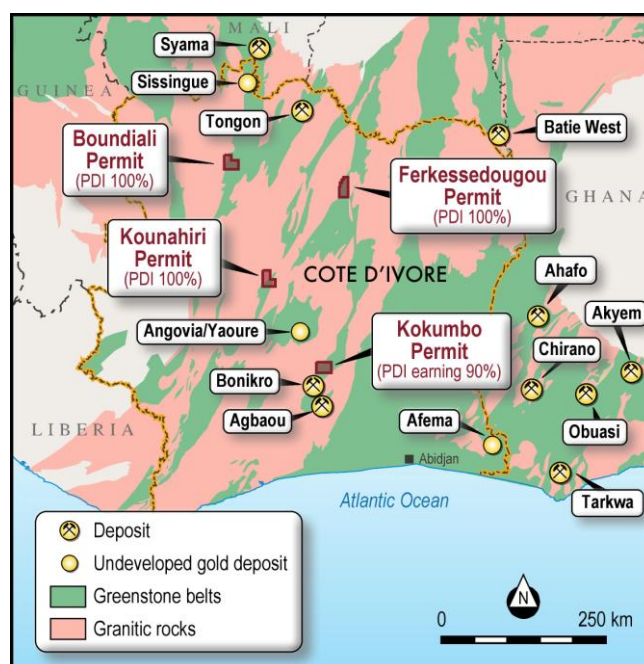


Figure 1: Locality map of PDI permits in Cote D'Ivoire

INTRODUCTION

Predictive is in Joint Venture with Toro Gold Limited, a UK-based company, on all four of its permits in Cote D'Ivoire – Kokoumbo, Boundiali, Ferkessedougou and Kounahiri (Figure 1). Under the terms of the Joint Venture agreement, Toro can earn a 51% interest in Predictive Discovery Cote D'Ivoire SARL (Predictive CI), which holds Predictive's interest in the four permits, by spending US\$1 million on exploration and option payments. Once Toro has achieved its 51% interest, PDI may contribute 49% of expenditure from then on or reduce its interest. If PDI decides to dilute, Toro can earn a further 14% in Predictive CI by spending an additional US\$2.5 million on exploration of the ground, which would leave PDI with a 35% holding.

Kokoumbo Background

Predictive CI is earning a 90% interest in the Kokoumbo exploration permit in southern Cote D'Ivoire from an Ivorian company, Ivoir Negoce. The Kokoumbo permit covers an area of historic artisanal and French colonial era mining located in a highly prospective belt of rocks which also includes the Bonikro gold mine, currently in production by Newcrest, and Agbaou gold mine, where Endeavour Mining commenced commercial production in January 2014 (Figure 1).

Toro Exploration Program - Kokoumbo

Toro has carried out a large scale exploration program on the Kokoumbo permit, consisting of extensive geological mapping and the following sampling program:

Sample Type	Number
Soil, lag and laterite	4,236
Rock chip and selective quartz vein samples	208
Spoil Heap samples	198
Channel/Trench	244
TOTAL	4,886

The results reported here relate to the soil, lag, laterite, rock chip and selected quartz vein sampling programs. Assays for most of the trench samples have not yet been received.

Toro's rock chip sampling and selective quartz vein was focused mainly around existing artisanal workings (Figure 2). Very high grade values were obtained in places, including:

- Bandama area, an 8 hectare site of artisanal workings, which covers part of the old Kokoumbo Mine complex. Best values were:
 - **98.2g/t Au (over 3oz/t)** – selective grey quartz vein sample with visible gold and oxidised sulphides,
 - **53.5g/t Au** – selective grey quartz vein sample with oxidised sulphides, and
 - **43.8g/t Au** – selective grey quartz vein sample with visible gold and oxidised sulphides.
- Outcrops 600m NW of Bandama:

- **23.0g/t Au** – block of quartz vein float,
- **20.3g/t Au** – 1m wide milky quartz vein outcrop, and
- **43.7g/t Au** - subcrop of quartz veining in metasediment, 2km west of Bandama

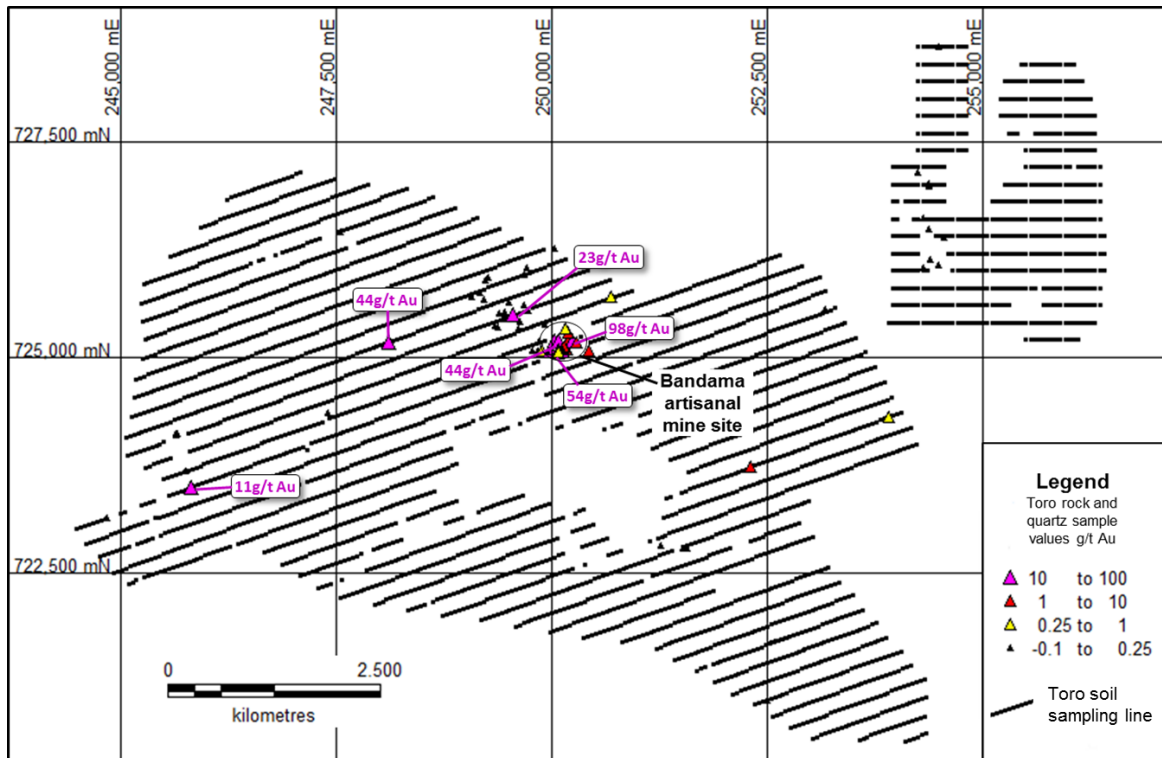


Figure 2: Location of Toro soil sampling grid with location and grade of rock chip and selective quartz samples highlighted

Toro collected soil, lag and laterite samples on lines 200m apart at a sample spacing along lines of 50m. The samples were assayed for gold by fire assay at the ALS laboratory at Loughrea in Ireland. This sampling revealed extensive gold anomalous values (>20ppb Au) throughout the gridded area. Of particular interest are two large areas of gold anomalism (Figure 3):

- A 6km long gold geochemical anomaly with peak values of **3.4 and 3.3g/t Au**. This new target is of interest because:
 - It is in the same orientation as the major cross-cutting fault trend which attracted PDI to the Kokoumbo area initially,
 - It appears to be localised along a possible fault contact between granitic and mafic volcanic rocks (based on Toro's Ti/Zr XRF measurements of selected soil samples), and
 - The north-west (downstream) end of the anomaly coincides with the very high (656ppb Au) BLEG stream sediment obtained by PDI in 2014 (reported to ASX in September 2014 Quarterly Activities Report).
- An area of over 2 km² covering the historic Kokoumbo workings and surrounding area. This contains peak soil values of **1.2 and 1.3g/t Au**.

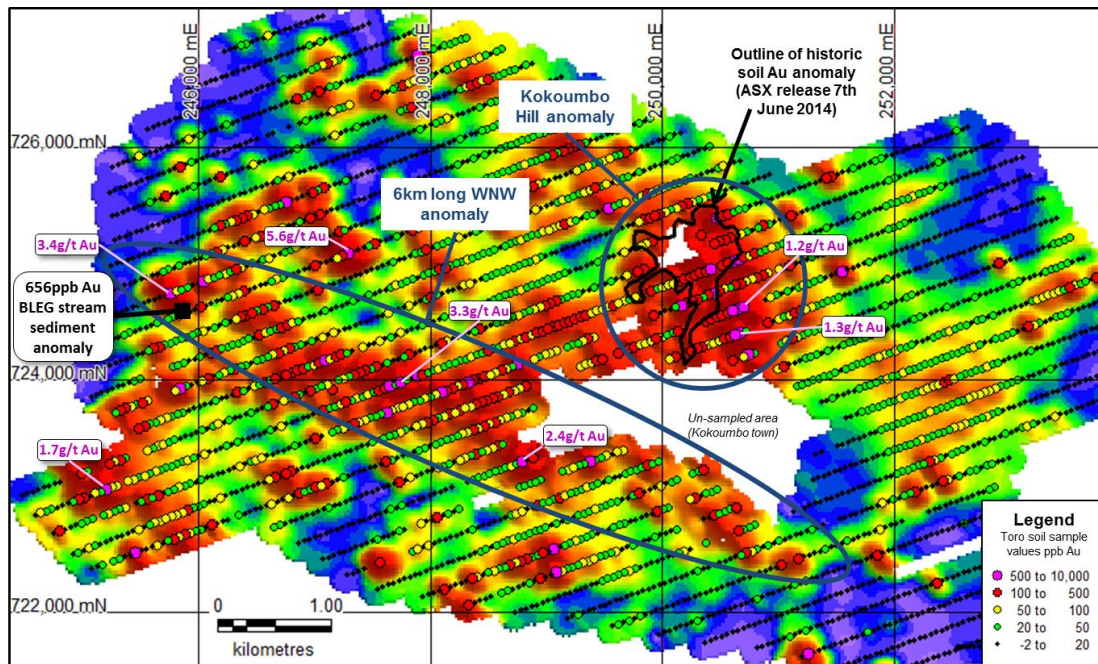


Figure 3: Close-up image of gridded soil, lag and laterite gold geochemical results obtained by Toro, highlighting two major areas of interest – around the old Kokoumbo mine on Kokoumbo Hill and along a 6km long WNW-oriented gold anomaly south and west of Kokoumbo Hill.

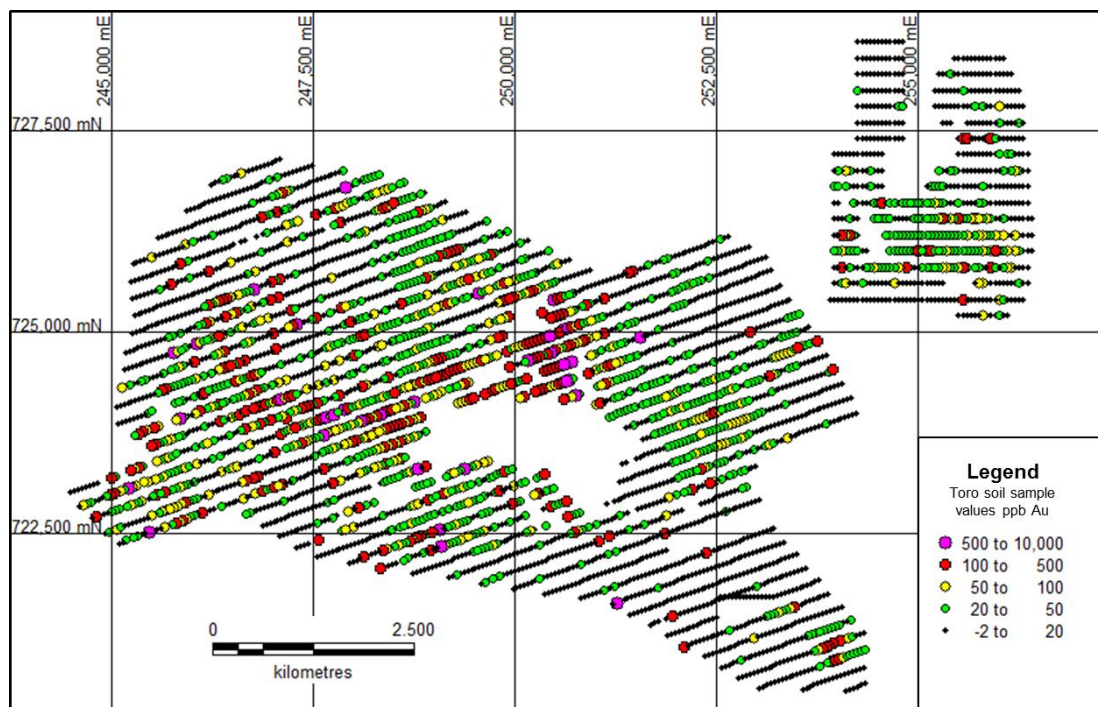


Figure 4: Gold soil geochemistry image showing all Toro Gold soil, lag and laterite sampling results obtained on Predictive's Kokoumbo permit, colour-coded by gold value ranges.

Planned Follow-up Work

Toro plan to collect a further 1,666 soil and lag samples to follow up these results with infill sampling.

TABLE 1 – SOIL, LAG, LATERITE AND ROCK CHIP SAMPLING SAMPLE RESULTS

Geochemical Results									
Sample numbers	Northing (WGS84-30N)	Easting (WGS84 – 30N)	RL	Hole dips	Azimuth	Hole Depth	From	Interval	Au (ppb)
Toro sample numbers in the range 10001-15337	Refer to Figures 2-4 for map locations of all samples	Refer to Figures 2-4 for map locations of all samples	See notes	Not relevant to the samples described in this report	Not relevant to the samples described in this report	Soil samples were collected from 10-50cm depth. Lag, laterite, rock chip and selective quartz samples were collected from surface or within artisanal mine openings	Not relevant to the samples described in this report	Not relevant to the samples described in this report	See notes and Figures 2-4
<p>Notes: Soil and lag sampling are reconnaissance exploration techniques. In the sampling and sample preparation method used by Toro, soil samples were collected from shallow holes and dried and subsampled at a local field camp. The prepared samples were then sent to the ALS laboratory in Loughrea in Ireland for fire assay analysis. Rock chip and laterite samples were collected from outcrops and from within artisanal mine openings. Selective quartz samples consisted of the quartz material extracted selectively from larger rock chip samples that also contained country rock material. The RL ranges for the Kokumbo permit is 133-483m. Individual RLs are not reported in this announcement because they are not relevant to interpreting geochemical data of this type.</p>									

Section 1: Sampling Techniques and Data		
Criteria	JORC Code Explanation	Commentary
Sampling Technique	<p>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.</p> <p>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.</p>	<p>The sampling described in this report refers samples obtained from the Kokumbo exploration permit in Cote D'Ivoire.</p> <p>The soil and lag samples were collected from shallow holes with depths between 10 and 50cm and the laterite, rock chip and selective quartz samples were collected from outcrops and artisanal mine openings.</p>
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,	This is not relevant to a rock and soil sampling program.

	etc).	
Drill Sample Recovery	<p>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.</p> <p>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.</p>	This is not relevant to a rock and soil sampling program.
Logging	<p>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.</p> <p>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.</p>	Rock chip sample lithologies and textures are described in some detail. Soil, lag and laterite samples are described in terms of soil type, regolith and landscape classification and colour. Descriptions are largely qualitative.
Sub-Sampling Technique and Sample Preparation	<p>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.</p> <p>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.</p>	The sample preparation method is appropriate and standard for soil and lag samples of this type. Rock chip samples were generally intentionally selective.
Quality of Assay Data and Laboratory Tests	<p>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</p> <p>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.</p> <p>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.</p>	The analytical method used has a very low (1ppb Au) detection limit which is appropriate for samples of this type.

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	This is not relevant to a rock and soil sampling program.
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	Coordinates shown on the locality maps (Figures 2-4) are for Universal Transverse Mercator (UTM), Datum WGS 84, Zone 30 - 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 soil sampling grid was 200 x 50m and is considered appropriate for exploring this well mineralised area. No Mineral Resource can be estimated from these data.
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 samples were collected along lines which were designed cross cut the interpreted geological features in the area, including variously orientated structural trends and interpreted lithological contacts.
Sample Security	The measures taken to ensure sample security	Samples are stored securely at Toro Gold's field office in Yamoussoukro.
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 Kokumbo exploration permit was granted in June 2013. PDI Cote D'Ivoire SARL is earning a 90% interest in the Kokumbo permit from local partner, Ivoir Negoce. PDI Cote D'Ivoire SARL is a wholly owned subsidiary of PDI. Toro Gold Limited may earn a 51% interest in PDI Cote D'Ivoire SARL by spending US\$1 million.
Exploration Done by Other Parties	Acknowledgment and appraisal of exploration by other parties.	Extensive historical exploration has been carried out on the Kokumbo permit and was acknowledged and described in PDI's release to the ASX dated 10/6/14.
Geology	Deposit type, geological setting and style of mineralisation.	The geology of Kokoumbo consists of granite, metasediments, mafic volcanics and intrusives, and conglomerates. Quartz-vein hosted mineralisation observed at Kokoumbo is considered to be of the orogenic gold type.
Drill Hole Information	A summary of all information material to the understanding of the exploration	This is not relevant to a rock and soil sampling program. Sample coordinate information is provided in Table 1 and on

	<p>results including a tabulation of the following information for all Material drill holes:</p> <ul style="list-style-type: none"> • 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. 	the maps included in this release.
Data Aggregation Methods	<p>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.</p> <p>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.</p> <p>The assumptions used for any reporting of metal equivalent values should be clearly stated.</p>	This is not relevant to a rock and soil sampling program..
Relationship Between Mineralisation Widths and Intercept Lengths	<p>These relationships are particularly important in the reporting of Exploration Results</p> <p>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').</p>	This is not relevant to a rock and soil sampling program.
Diagrams	<p>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.</p>	Appropriate plans showing the locations of the soil, lag, laterite, rock chip and selective quartz samples, classified by results, are shown in this release.
Balanced Reporting	<p>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.</p>	All soil, lag, laterite, rock chip and selective quartz sample results have been reported.
Other Substantive Exploration Data	<p>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.</p>	All relevant, new exploration data is reported in this release.

Further Work	<p>The nature and scale of planned further work (eg tests for lateral extensions or large scale step out drilling).</p> <p>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</p>	<p>Follow-up infill soil sampling, totalling 1,666 samples, is planned on the permit as outlined in this release.</p>
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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 and the Exploration Target 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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