



16th December 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: 1,301M shares

Share Price: 0.2 cents

Market Capitalisation: \$2.6M

Directors

Phillip Jackson
Non-Exec Chairman

Paul Roberts
Managing Director

Tim Markwell
Non-Executive Director

Permit Granted in Cote D'Ivoire over Large Gold Mineralised System

Predictive Discovery Limited (ASX:PDI) is pleased to announce that the Wendene permit over the **large Bobosso gold mineralised system** in Cote D'Ivoire has now been granted. Previously the Company announced an agreement with an Ivorian company on 28 October, 2015 by which PDI would provide and/or arrange financing and exploration management on an 800 km² ground package in northern Cote D'Ivoire. At that stage, grant of the Wendene permit was pending.

Highlights of the Bobosso Project include:

- ☐ High-grade and/or wide, shallow historical RC and diamond drill intercepts including:
 - **5m at 20.6g/t Au** from 48m
 - **7m at 9.5g/t Au** from 26m
 - **32m at 1.9g/t Au** from 12m
 - **35m at 1.6g/t Au** from 65m
 - **2m at 29.2m g/t Au** from 66m
- ☐ **7km² gold-in-soil anomaly** covering with average value of **0.4g/t Au**
- ☐ **Multiple mineralisation styles and lode positions** extending over large area
- ☐ Historical database - **569 RC holes** and **11 diamond drill holes**
- ☐ Significant parts of 7km² soil anomaly **not tested by RC drilling**, and **numerous untested gold-in-soil anomalies** along strike.
- ☐ **First phase exploration** including drill re-logging, geological mapping and preliminary metallurgical testwork (subject to sample availability) to commence in the March Quarter.

Mr Paul Roberts, Predictive's Managing Director said: *"Bobosso is a major new opportunity for the Company and its shareholders. The gold mineralised system is very large and under-explored with clear shallow potential."*

With the grant of the Wendene permit, PDI holds interests in granted permits in Cote D'Ivoire covering over 2,300km² in five highly prospective belts. The recently announced results from the Toro Joint Venture and the historical results from Bobosso ground all point to potential for major gold deposits on our ground. Exploration will now start quickly at Bobosso. At the same time, in accordance with our strategy, we will seek additional project-level funding to enable a significant drilling program on Bobosso in 2016.

Following the recent well subscribed Rights Issue and the ongoing excellent results from our Cote D'Ivoire joint venture with Toro Gold, we are in very good shape to deliver a solid newsflow of exploration results from our West African projects in 2016 while having enough cash to sustain the Company for at least 18 months".

INTRODUCTION

Following grant of the Wendene permit, the Bobosso Project now consists of two granted exploration permits (Bassawa) and (Wendene) in northern Cote D'Ivoire (Figure 1). The Cote D'Ivoire Government announced the grant of Wendene following a Ministerial Council Meeting dated 9 December 2016 (http://www.gouv.ci/doc/1449750005CCM_09122015.pdf, item 5, page 7).

Bassawa and Wendene were both granted to an Ivoirian Company, XMI SARL (XMI). XMI also holds another permit application, Niakaramandougou, which is located south-west of Predictive's Ferkessedougou permit (Figure 1). Bassawa and Wendene each cover an area of 400km². Niakaramandougou covers 399 km².

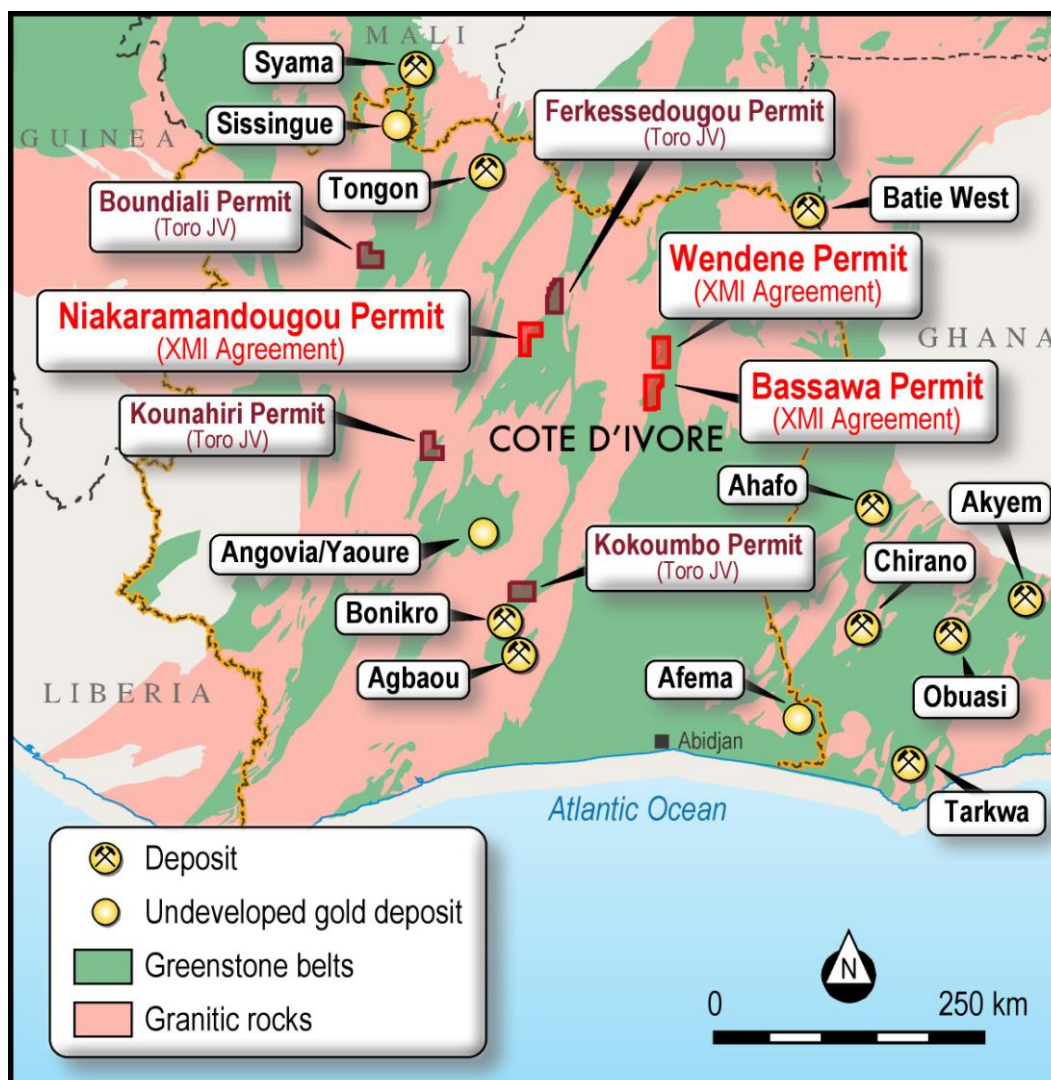


Figure 1: Location of the XMI granted exploration permits (Bassawa and Wendene) and the Niakaramandougou permit application in Cote d'Ivoire. Also showing are Predictive's other permits in Cote d'Ivoire (in brown), which are currently under joint venture with Toro Gold Limited.

Bassawa and Wendene are located in the southern extension of the well mineralised Hounde Belt in Burkina Faso, which includes Semafo's Mana Mine (5Moz in ore resources and reserves¹).

Both permit areas were previously covered by a single exploration permit that was granted to Equigold in 1997, then passed onto Lihir Gold Limited and subsequently to Newcrest Mining Limited following the successive mergers of those companies. Predictive understands that the ground was surrendered last year because of the age of the permit, which was well beyond the normal time for exploration envisaged by the Cote D'Ivoire Mines Administration.

The reported geology of the area includes mafic volcanics, sediments and intrusive rocks of variable composition including diorites and granites.

Historical Exploration Results

(see ASX release dated 28 October 2015 for detailed data and additional cross sections)

XMI has provided PDI with a historical exploration database including technical reports. This has been validated by a visit to the main drilled area and sighting some of the historic drill collars in their correct locations. Subsequently, many of the original drill assay data certificates have also been obtained.

The Equigold and Lihir Gold Limited historical RC and diamond drilling on the Wendene permit application consisted of 569 RC and 11 diamond drill holes. This work followed up soil sampling and widely spaced RAB drill lines on both the Wendene and Bassawa permits.

The historical soil sampling obtained many anomalous results over the Bassawa permit and Wendene permit application (Figure 2). Of particular note is a **7km² area** in Wendene in which most of the values are above 100ppb Au (Figure 3). This area contains 729 soil samples with an average arithmetic value of **394ppb Au (0.39g/t Au)** and peak values of **39.8g/t Au, 20.2g/t Au** and **6.89g/t Au**. There are numerous plus 100ppb Au anomalous values outside of this area, many of which are untested by any drilling.

569 RC holes and 11 diamond drill holes were completed in the area of the 7km² anomaly (Figure 3). Of these, 221 holes contained at least one 2gxm intercept² at a cut-off grade of 0.5 g/t Au. Most of these intercepts were at shallow depths. The average (vertical) depth tested by drilling was approximately 80m.

All RC and diamond drill intercepts are reported in the drill results table at the end of this release. High-grade and/or wide mineralised intercepts recorded in the database include the following:

- BRC047: **32m at 1.93g/t Au** from 12m
- BRC053: **2m at 29.70g/t Au** from 0m

¹ See <http://www.semafo.com/English/operations-and-exploration/reserves-and-resources/default.aspx>

² e.g. 1m at 2g/t Au or 4m at 0.5g/t Au

- BRC083: **5m at 20.60g/t Au** from 48m
- BRC097: **7m at 5.36g/t Au** from 17m
- BRC262: **35m at 1.56g/t Au** from 65m
- BRC278: **7m at 9.52g/t Au** from 26m
- BRC311: **2m at 29.16g/t Au** from 66m
- BRC343: **25m at 1.45g/t Au** from 11m
- BRC552: **9m at 5.01g/t Au** from 4m
- BRC557: **31m at 1.18g/t Au** from 59m
- BRC561: **9m at 4.21g/t Au** from 12m

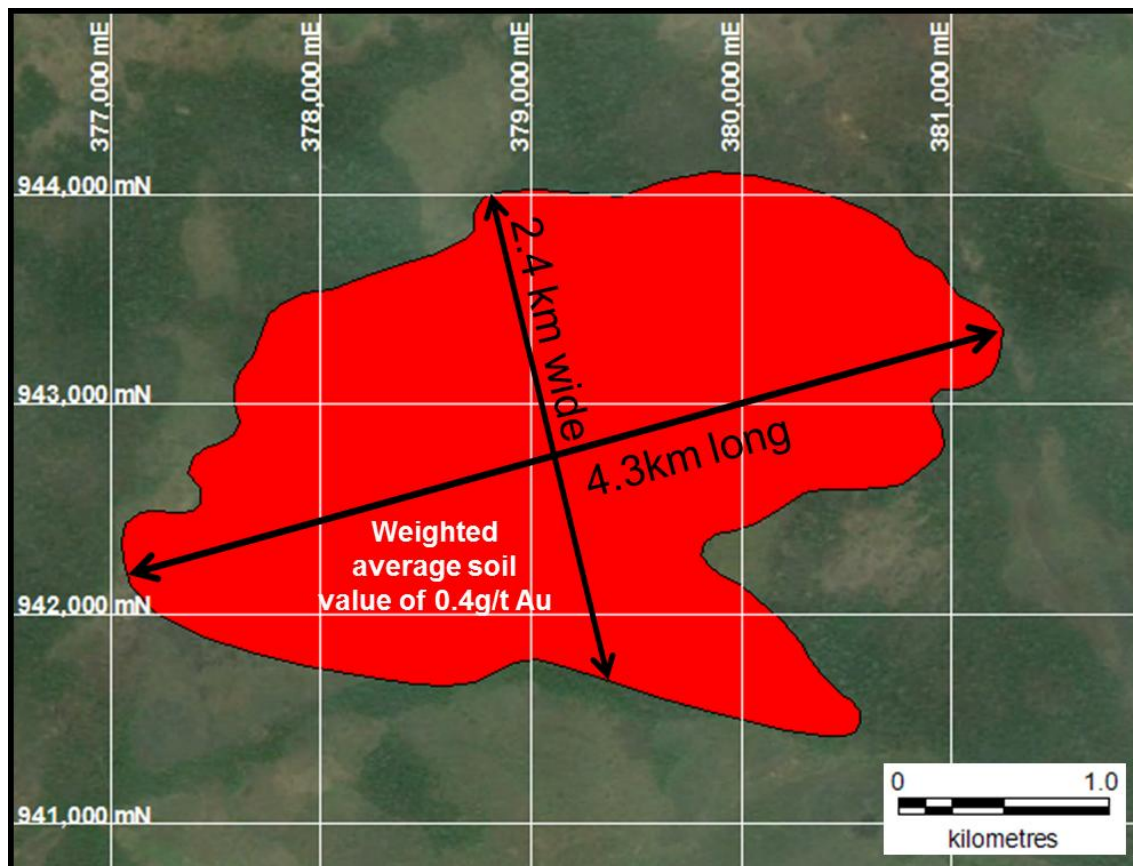


Figure 2: Bobosso gold geochemical anomaly on satellite imagery background

Predictive makes the following observations about the Bobosso project:

- The drilled area covers a major gold mineralised system with numerous separate zones of gold mineralisation, apparently with variable vein and/or mineralised shear orientations.
- Gold mineralisation continuity is not the same everywhere. In places, convincing continuity can be seen but, elsewhere, continuity is not as clear. This may be due, in part,

to holes having been drilled in the wrong direction. Some mineralisation may also be present as thin veins with limited strike extent.

- Elevated gold values near surface are quite common, and help explain the very large gold anomaly. These values may be explained by partly lateritised alluvium/colluvium formed by erosion of the underlying mineralisation. In places, continuity of these near-surface values from hole to hole is clear (e.g. Figure 4). Such zones offer potential for early low cost gold production from this site.
- Gold grades in unweathered rocks are associated with elevated levels of quartz and/or pyrite.
- Geologically logged primary rock types include andesite, basalt, diorite and lesser felsic schists, tuffs and granite. Some inconsistencies between the geology of adjacent holes have been noted, which suggests that re-logging will be required. Predictive understands that the RC drill chips still exist and could be available for re-logging by Predictive geologists. Re-logging of the geology and systematic XRF measurements of chips and drill core will offer a good opportunity to both better understand mineralisation continuity and plan follow-up drilling.
- According to the historical drill logs, the depth of weathering averages about 30m.
- Most of the historical drilling was conducted on 200m spaced drill lines. It is unlikely that a formal resource estimation could be made using such widely spaced drill lines. Nevertheless, Predictive believes that, when supported by the results of new infill drilling, this data is sufficiently well documented for use in a future resource calculation because:
 - the digital database includes hole collar information, downhole survey data, assays, geological logs and drill core photography,
 - based on Predictive's field visit, many hole collar markers appear to be intact, allowing validation of the drill locations by an independent expert, and
 - most of the RC drill gold analysis certificates are now held by Predictive.
- Few or no villagers live or farm directly on the Bobosso gold-in-soil geochemical anomaly. There are signs of recent artisanal mining activity but PDI is informed that Government officials have recently been actively discouraging artisanal mining in this area. Predictive is informed that past explorer relationships with the local villagers were positive.
- Local infrastructure is generally quite good. The nearest town, Dabakala, is connected to Cote D'Ivoire's sealed road network and is a 90 minute drive from the project area. There is also a substantial power line which runs within a few kilometres of the Bobosso gold anomaly.

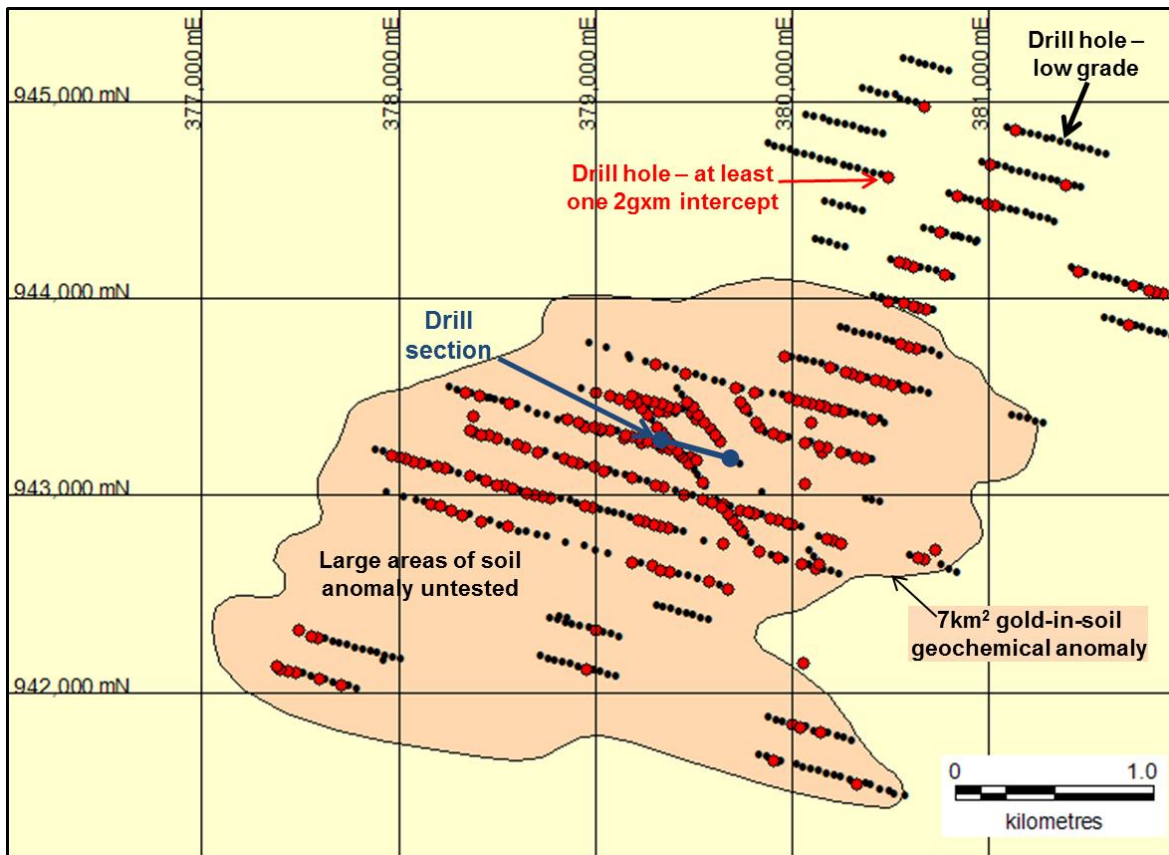


Figure 3: Bobosso gold in soil geochemical anomaly showing location of all historical RC holes, highlighting all holes with gold intercepts of at least 2 g x m (red dots) and showing cross section location.

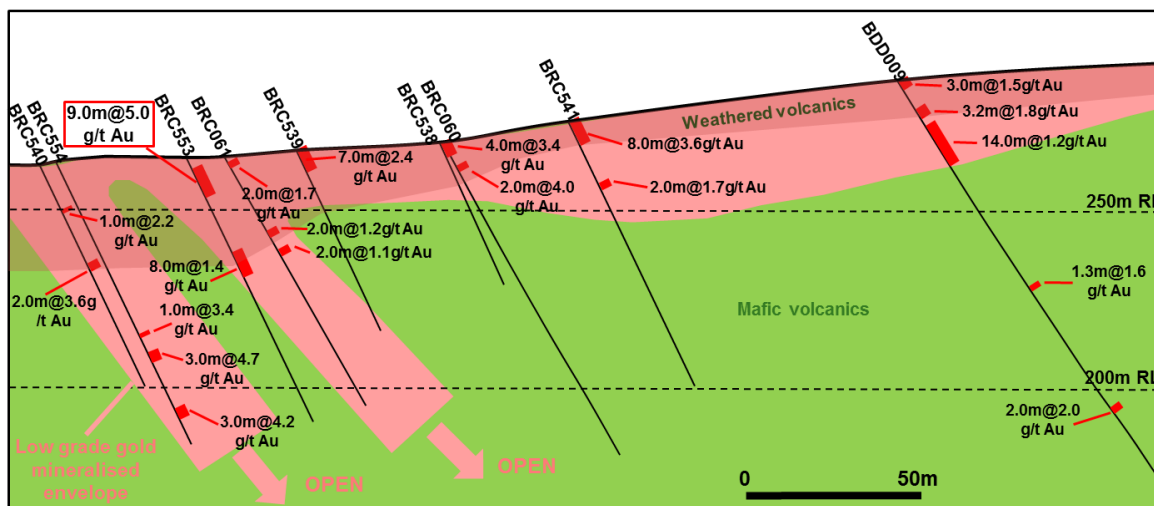


Figure 4: Drill cross section showing near surface, possibly partly lateritised colluvial/alluvial gold zone. Note high grade, shallow BRC553 intercept.

Agreement with XMI

Key terms of the agreement are as follows:

- The agreement is subject to grant of the Wendene permit, which has now taken place.
- Equity in the project will be earned through a holding company in the UK - Exploration and Mining Investments Limited (**EMIL**).
- On grant of Wendene, PDI will invest £27,000 (Approximately A\$58,000) into EMIL and obtain 15% of that company.
- PDI will have an exclusive right for six months to raise capital to progress the project. This capital may be provided in part or in whole by PDI or third party investors arranged by PDI.
- Subject to completion of a successful initial capital raising of at least £500,000 within 6 months of the grant of Wendene, Predictive will have the first right of refusal to raise funds into EMIL for two years from the date of grant.
- Predictive's team will manage exploration of the project.

The benefits of this agreement are that:

- PDI's initial outlay is modest but will immediately give the Company a 15% equity in the project.
- The agreement maximises PDI's flexibility by allowing investment at the project level or at the parent company level.
- Predictive's technical team will be able to manage exploration of the project in a highly cost effective way, and with minimal overheads.
- The two year right to raise funds into EMIL maximises PDI's ability to retain control of the project.

The owners of XMI will play a key role in the ongoing management of EMIL. Their representative, Mr Eric Kondo, holds an EMIL Board seat and will be a member of the executive committee which will run EMIL on a day-to-day basis. Mr Kondo will also provide critical in-country support in regards to the administration of XMI, government and community relationships. The technical program, which will constitute the major activity of EMIL and XMI, will be managed by Predictive's Managing Director, Mr Paul Roberts.

Planned Work Program

Initial work planned for the March Quarter is as follows:

- Geological mapping of the Bobosso mineralised area;
- Re-logging of RC and diamond drill samples of key mineralised areas, including XRF logging to more accurately distinguish rock types. Logging of orientated drill core may provide a clearer picture of mineralised lode orientations;
- Ground follow-up of gold anomalous areas throughout the two permits to identify potential future drill targets;
- Metallurgical test work of shallow gold-bearing material; and

- Drill planning based on 3D interpretations of target mineralised zones based on the re-logging program and surface geological mapping.

In accordance with the Company's stated strategy, PDI and Mr Kondo will seek additional funding for EMIL level to enable drilling of high priority mineralised zones without requiring dilutive capital raisings by Predictive itself.

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 granted permits in Côte D'Ivoire covering a total area of 2,333 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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