

6<sup>th</sup> November 2015

ASX Announcement

ASX:MGY

## KARLAWINDA GOLD PROJECT ACQUISITION UPDATE and CLARIFICATION

PERTH, 3<sup>rd</sup> November 2015: MALAGASY MINERALS LIMITED (ASX:MGY) ("Malagasy") is pleased to announce that following the execution of a Heads of Agreement (HOA) with Greenmount Resources Pty Ltd ("Greenmount") to acquire all of the issued capital of Greenmount the formal due diligence process has now commenced.

As part of the formal due diligence process Malagasy Minerals has engaged HLB Mann Judd to undertake an independent experts report on the pending transaction, which will include a valuation of the Karlawinda gold tenement by Optiro, a leading resource industry consulting group. As per the previously outlined timetable this work will be completed by the 13<sup>th</sup> November 2015.

A number of clarifying statements have been made in this release that pertain to the resource and drilling results announced in the 26<sup>th</sup> October ASX announcement, in relation to exploration work not undertaken by Malagasy. A JORC Code (2012) Table 1 Parameters has been included as Appendix 1. To enable ease of reference, these have been included within the previous announcement and released again, below.

## Background

Greenmount is an unlisted private company which has contracted to acquire the Karlawinda Gold Project encompassing the Bibra Gold Deposit and the highly endowed Francopan Gold Prospect. These advanced positions are located in a large exploration holding that is considered to have excellent regional gold potential. Greenmount has paid the first installment to acquire Karlawinda and is required to pay a further installment of \$1.5m in August 2016.

#### KARLAWINDA PROJECT DETAILS

#### Summary

- Bibra Deposit JORC 2012 Inferred resource at: 18mt @ 1.1g/t Au for 650,800oz Au (COG 0.5g/t)\*
- Potential for near term open pit production: approximately \$12 million already spent on resource evaluation and pre-feasibility study activities.
- Thick, flat lying gold mineralized structure amenable to low cost open pit mining with mineralization starting close to surface. No previous mining.
- Located close to key infrastructure and mining support services.
- Large scale potential within an unexplored Archaean greenstone belt to significantly add to the resource base in the near term:
  - **Bibra Gold Deposit**: gold mineralization remains open in down plunge positions and potential exists for strike extensions and stacked mineralized gold lodes. Large areas of defined mineralization are not included in the JORC resource.
  - **Francopan Prospect**: drilling intersections up to 5km away from the Bibra Deposit include 81m @ 1.2g/t Au (includes 15m @ 3g/t Au) and 37m @ 1.9g/t Au (Table 1).
  - **Regional Exploration:** largely limited to reconnaissance aircore drilling. Number of defined high priority targets for immediate testing. Potential for a large-scale mineralized system.

#### Location

The Karlawinda Gold Project is located approximately 65 km south of Newman in the Pilbara Province of Western Australia (Figure 1). The main access route is via the Great Northern Highway and the Weelarrana Station (unsealed) access road and station tracks within Weelarrana Station. The Pilbara-Goldfields Gas Pipeline is located 50km to the west of the main project area.



Figure (1) – Karlawinda Gold Project Location Plan

## Tenements

The main project area is made up of four granted exploration licences that cover an area of approximately 290km sq. (Figure 2). The tenements cover a large area of the Sylvania Dome, an under-explored Archaean aged outlier on the margin of the Pilbara Craton. The southern part of the project is covered by the Proterozoic Bangemall Basin.



Figure (2) – Karlawinda Gold Project Tenement and Geology Plan

#### **Previous Work**

Gold mineralization at the Francopan Prospect was originally discovered by WMC Resources Ltd in 2005. The project was subsequently acquired by Independence Group (IGO) in 2008 resulting in the discovery of the significant Bibra Gold Deposit in 2009.

Since the discovery of the Bibra Gold Deposit by IGO approximately \$12 million has been spent on resource evaluation activities (RC and diamond drilling, assays, geotechnical assessments and resource modelling),

scoping study activities (Including: metallurgical test work, conceptual mining designs, hydrology, baseline environmental studies, CIL process plant design and power supply), and initial programs of regional exploration (aircore drilling, geochemical surveys and geophysical survey).

In addition, the project area has been the subject of Heritage Surveys with a number of Heritage Agreements in place.

#### **Bibra Gold Deposit**

The Bibra Gold Deposit is part of a large-scale Archaean aged gold mineralized system. The resource is hosted within a package of deformed meta-sediments that has developed on at least two parallel, shallow dipping structures; oxide mineralization has developed over the structures from surface to a depth of approximately 60m. The primary mineralization is strata-bound with lineations likely controlling higher-grade shoots.

A JORC 2012 inferred resource of **18 million tonnes @ 1.1g/t Au for 650,800oz Au** was estimated by IGO and subsequently reviewed by independent consultants (see Appendix 1). There is a substantial amount of gold mineralization drilled in close proximity to the existing resource that has the potential to be upgraded with a limited amount of infill drilling. Scope exists for major expansions of the resource down plunge and to a lesser extent along strike with additional drilling (Figure 3a, 3b and 3c).



Figure (3a) – Bibra Gold Deposit

This diagram shows drill locations and calculated gram X metre thickness contours. Areas highlighted have potential in the near term to provide significant additions to the resource.

The resource drilling is a combination of RC and lesser diamond with a nominal spacing of 100m X 50m.



Figure (3b) – Bibra Gold Deposit

This diagram highlights the potential to significantly increase the Bibra Resource in the down-plunge position. The focus will be on defining high-grade shoots within the broader mineralized envelope.



Figure (3c) – Bibra Gold Deposit Interpreted Cross Section (Diagram from IGO 2011 Diggers and Dealers Presentation)

#### Table (1): Bibra – June 2014 Resources

(As reported by Independence Group NL in there 2014 Annual Report)

Mineral Resource 30 June 2014* - Reported at a 0.5g/t Au cut off grade				
Classification	Tonnes (Mt)	Au g/t	Contained Au (Oz)	
Measured				
Indicated				
Inferred	18	1.1	650,800	
GRAND TOTAL	18	1.1	650,800	

#### Notes:

- 1. The Mineral Resource estimate was estimated within a conceptual A\$1,600/oz Au pit shell completed in 2012 and for the area of drill coverage at 100m x 50m spacing or less. Contained gold (oz) figures have been rounded to the nearest one hundred ounces.
- 2. The Mineral Resource has been unchanged since 2013.
- 3. Mostly RC drilling with 1m cone split samples analysed by 50g fire assay. Diamond drilling has been completed in areas through the resource as a check on the RC and to provide structural information.
- 4. Mineralisation was wireframed at a cut-off grade of 0.3g/t Au and Mineral Resources were reported above a cut-off grade of 0.5g/t Au.
- 5. Block modeling used ordinary kriging grade interpolation methods for composites that were top-cut to 10g/t Au in the supergene zone and 16g/t Au for the remaining mineralization. Top cuts are not severe, trimming no greater than 0.5% of the samples.
- 6. There are no Ore Reserves for Karlawinda.
- 7. See Appendix (1) JORC Code (2012) Table 1 Parameters.

#### **Francopan Gold Prospect**

The Francopan Gold Prospect is located approximately 5km south east of the Bibra Gold Deposit (Figure 4) and demonstrates the potential size of the gold mineralizing system at Karlawinda. The mineralization is covered by the northern margin of the Bangemall Basin.

Limited broad spaced drilling beneath the cover sequence has intersected broad zones of mineralization containing narrower higher-grade intervals (Figure 5). Francopan will be targeted to define the size of the mineralized system, determine whether there is a connection with the Bibra Deposit and identify high-grade areas that can be assessed for underground mining opportunities.



Figure (4) – Karlawinda Gold Project Prospect Location Plan



Figure (5) – Francopan Prospect Interpreted Geological Cross Section (Diagram from IGO 2011 Diggers and Dealers Presentation)

## **Regional Exploration Potential**

The Karlawinda Project remains largely unexplored. Since the discovery of the Bibra Deposit the focus has largely been on detailed assessment of that resource. Regional exploration remains at an early stage and is limited to wide spaced aircore drilling, surface geochemistry and programs of geophysics.

Despite the limited nature of the regional exploration a series of priority targets have been identified for immediate follow-up work. Results of over 2g/t Au have been returned from shallow aircore drilling (Figure 4).

## TRANSACTION DETAILS

Under the HOA Malagasy will acquire all of the issued capital of Greenmount by the issue of 171,636,476 fully paid ordinary shares, which will represent 50% of the expanded capital of Malagasy after the issue.

#### HOA CONDITIONS PRECEDENT

The HOA is subject to the following conditions:

- Malagasy completing its due diligence investigations with respect to Greenmount and issuing a notice to Greenmount by 13 November 2015, or such later date as agreed by the Parties, advising that Malagasy is satisfied with its due diligence in its sole and absolute discretion.
- Greenmount completing its due diligence investigations with respect to Malagasy and issuing a notice to Malagasy by 13 November 2015, or such later date as agreed by the Parties, advising that Greenmount is satisfied with its due diligence in its sole and absolute discretion.
- Malagasy entering into a Share Sale Agreement with each of the Greenmount shareholders by 20<sup>th</sup> November 2015, or such later date as agreed by the Parties.
- Malagasy obtaining all shareholder approvals required by the ASX Listing Rules and the Corporations Act (2001) for the allotment of the consideration shares to Greenmount shareholders.

#### **CAPITAL STRUCTURE**

The capital structure following completion of the transaction would be as follows (assuming all resolutions at the annual general meeting which relate to the issue of shares are passed.):

	Shares	%	Options
Existing securities	165,346,421	48.2	8,250,000
Issued after AGM approval	6,290,055	1.8	-
Issued for Greenmount acquisition	171,636,476	50.0	-
	343,272,952	100.0	8,250,000

#### **BOARD AND MANANGEMENT**

At completion of the transaction, existing Malagasy directors Dr. Peter Woods and Mr. Graeme Boden will resign and two Greenmount directors Mr. Heath Hellewell and Mr. Peter Thompson will join the board.

Mr. Thomson will become the Managing Director of Malagasy and existing company secretaries Mr. Graeme Boden and Ms. Natasha Forde will be retained.

## **RESTRUCTURING OF EXISTING MALAGASY ACTIVITIES**

Existing Malagasy assets which are excluded from the transaction are the subsidiaries (both in Madagascar):

- Mada-Aust SARL, which holds the tenements containing the Maniry graphite project in particular, but also other graphite and mineral prospects, together with labradorite mining leases.
- Mining Services SARL, which is a drilling and sample preparation company.

These companies will be folded into a newly incorporated Mauritian company, to be named Madagascar Graphite Limited.

Subject to the payer's consent, a potential receipt of \$1.0m Canadian upon commencement of commercial production at the Molo graphite project and a 1.5% net smelter return royalty from the project, will also be transferred to Madagascar Graphite Limited.

Upon completion of the Greenmount acquisition, shares in Madagascar Graphite Limited will be distributed in specie to Malagasy shareholders of record on the completion date and will be funded independently of Malagasy.

The objective is that pre-transaction Malagasy shareholders will hold 100% of Madagascar Graphite Limited, and 50% of the merged Malagasy/ Greenmount entity, which will be renamed at completion.

At completion of the restructuring the principal ongoing assets of the continuing Malagasy/ Greenmount merged entity would be:

- Karlawinda gold project
- Madagascar subsidiary, St Denis Holdings SARL

The sole asset of St Denis is 19,000 square metres of land in prime hillside location in Antananarivo, the capital of Madagascar. Present buildings include two houses, canteen, several office buildings and warehouse space, presently used for vehicle fleet and petroleum and mineral sample preparation.

The potential of the land lies in development for a range of residential, commercial or industrial possibilities.

#### TIMETABLE

The anticipated timetable to completion of the transaction is as follows:

Activity	Date
Execution of Heads of Agreement	Friday 23 October 2015
ASX announcement	Pre-open Monday 26 October 2015
Completion of Malagasy DD on Greenmount and Greenmount DD on Malagasy	Friday 13 November 2015
Execution of share sale agreements	Friday 20 November 2015
Malagasy Notice of Meeting to ASX	Friday 20 November 2015
Malagasy Notice of Meeting to ASIC	Friday 27 November 2015
Despatch of Notice of Meeting	Tuesday 15 December 2015
Shareholder meeting and allotment of MGY shares	Friday 15 January 2016

#### For Further information, please contact:

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Corporate Matters: Graeme Boden or Natasha Forde	(08) 9286 1219

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#### COMPETENT PERSONS STATEMENT. Competent Persons Statement

The information in this report that relates to Exploration Results or Mineral Resources is based on information compiled or reviewed by Mr. Peter Langworthy, Technical Director, who is a Member of the Australian Institute of Mining and Metallurgy. Mr. Peter Langworthy is a full time Director of Malagasy Minerals Limited and has sufficient experience, which is relevant to the style of mineralisation and types of deposit under consideration and to the activities undertaken, to qualify as a Competent Person as defined in the 2012 Edition of the "Australasian Code of Reporting of Exploration Results, Mineral Resources and Ore Reserves". Mr. Peter Langworthy consents to the inclusion in the report of the matters based on the information in the form and context in which it appears.

## Table (2) Karlawinda Gold Project Summary of Reported Drilling Results<sup>2</sup>

HOLE No	EASTING	NORTHING	AZIMUTH	DIP	EOH	FROM	то	INTERVAL	GRADE (g/t Au)
KBD025	207,248	7,364,917	65	-65	712.12	290	297	7	3.5
						(Inclu	udes)	1	20.3
						402	483	81	1.2
						(Inclu	udes)	15	3.0
						(Inclu	udes)	6	3.1
KBD009	207,600	7,365,035	65	-70	291.5	231.4	264	33	1.0
						(Inclu	udes)	6	4.5
						(Inclu	udes)	1	18.3
KBD001	207,700	7,365,150	0	-90	242.6	180	217	37	1.9
						(Inclu	udes)	8	5.1
						(Inclu	udes)	1	21.8
KBRC064	204,088	7,368,909	105	-60	180	87	132	45	1.5
						(Inclu	udes)	19	2.4
KBRC092	204,184	7,368,864	105	-60	148	32	109	32	2.2
						(Inclu	udes)	9	3.8
KBRC005	204,326	7,368,833	205	-60	128	38	75	37	1.8
						(Inclu	udes)	14	3.1
KBRC085	204,409	7,368,799	105	-60	40	6	24	18	2.0
						(Inclu	udes)	7	4.4

#### Notes:

1. See Appendix (1) JORC Code (2012) Table 1 Parameters.

## Appendix (1) – JORC Code (2012) Table 1 Parameters for Bibra Resource and Drilling Results

(As reported by Independence Group NL in there 2014 Annual Report)

(Note: It is important to note that Malagasy Minerals at this time has not done sufficient additional work to verify the resource completed by Independence Group NL (IGO) and Malagasy cautions investors that it is relying on another company's resource estimate. Malagasy has fully reviewed the input parameters and the results reported by IGO and reviewed by industry regarded independent consultants and believe them to be accurate.

The drilling results reported have been reviewed and adequate assessment of the QA/QC data has been made to provide confidence that the results, as reported by IGO, are accurate.)

## Section 1 Sampling Techniques and Data

Criteria	Commentary
Sampling techniques	Prior to 2011, RC samples were collected at the rig using a cone splitter that split the 1m cuttings into 87½% & 12½% splits. RC samples were originally composited to 2m by taking scoops from each of the 1m interval 87½% portions, and submitted to Genalysis for sample preparation and analysis. Samples that returned values >0.5g/t Au were submitted as 1m samples to Genalysis (the 12½% splits from the cone splitter). In 2011, RC samples were not composited and 1m interval samples were sent directly to Genalysis. A rig-mounted cone splitter was used to split the samples into 87½% & 12½% splits. NQ2 core was half-core sampled and PQ and PQ3 core was quarter-core sampled using a manual core-cutting diamond saw without water in the oxide zone. The dry cutting was to prevent loss of clays for the metallurgical samples. Sample quality is considered to be good and all RC drilling within the resource area was dry. In 2012, RC samples were collected for 1m intervals using a rig-mounted cone splitter that was not hydraulically adjustable. Samples were meant to be 12½% from each of the two sample chutes and 75% collection of the remainder in plastic bags. A system for measuring weights of bags to prove sample representivity commenced with the program, and showed that the splitter and collection system was not optimal for much of the RC drilling. Issues such as undersize and oversize samples were common, and bias between the paired samples was seen, particularly in the regolith as well as in the fresh rock where the collection system had not been cleaned. These issues are discussed in the section on Drill Sample Recovery. Wet samples were grab sampled and recorded as such in the database, few were within mineralised zones. NQ core was half-core sampled and HQ/HQ3 core was initially quarter-core sampled. Issues with quarter-coring in the regolith with complete disintegration of the sample and loss of material were identified, and reverted to half-core sampled using the laboratory.
Drilling techniques	In 2009-2010, principally Reverse Circulation (RC) drillholes using face sampling bits (Ranger Drilling Services, Boart Longyear Pty Ltd or Profile Drilling Services) with 3 diamond holes that have RC precollars (precollars drilled by Ranger Drilling Services (70-202m downhole depth) and NQ2 diamond tails drilled by Boart Longyear Pty Ltd) and 2 other diamond holes (PQ3 sized core by Drill West for metallurgical testing purposes). Three core holes (KBD026-028) were oriented using an Ace orientation tool. In 2011, 78 RC drillholes for 14,103m were drilled by Profile Drilling Services using a Schramm RC rig and 11 diamond holes (two with RC precollars, precollars drilled by Profile Drilling Services) drilled by Drill West using a Boart Longyear LF90D skid mounted rig. Core diameter was PQ3 and PQ to provide samples for metallurgical testwork and to also twin RC drillholes. Core was oriented (where possible) using a Reflex ACE orientation instrument. In 2012, 60 RC drillholes for 8409m and RC precollars for 534.8m were drilled by Blue Spec Mining using a KLBS900 Multipurpose rig with 4inch drill rods and face sampling 5inch bits. Two HQ3/NQ diamond holes were drilled by Blue Spec for 305.3m using the Multipurpose rig and 24 HQ/HQ3 diamond holes were drilled by Foraco for 3158.6m using a UDR1000 truck-mounted rig. Core from the Foraco drilling was oriented using an Ezymark orientation tool. Numerous aircore holes have been drilled into the project but these were not used in the resource estimate.
Urill sample recovery	Core recovery was generally good. RC sample recovery prior to 2012 has been logged as good with samples kept dry during drilling.

Criteria	Commentary
	In 2012 RC sample recovery was variable, particularly in the regolith. Sample quality was recorded during logging (wet/dry samples) and qualitative recovery codes (C=contaminated, G=good, M=moderate, O=oversize, P=poor, U=undersize) were assigned to each sample. Sample weights were measured for each component of RC hole cuttings in mineralised zones, with results showing that regolith samples were generally poor quality (both under and overweight samples) and quality was moderate in the other zones. Quantitative sample recoveries for RC samples can be calculated from the total recovered weights, and will be taken into consideration prior to any future change from an Inferred classification. Core was reassembled for mark-up and was measured, with metre marks and down-hole depths placed on the core. Depths were checked against driller's core blocks and discrepancies corrected after discussion with drillers. Core loss was recorded in the geological log.
	RC sample weights in 2012 drilling were used as a check on blockages and bias in the sample collection system. The rig was regularly stopped and the sample collection system cleaned when blockages occurred and when biased sample weights were noted. Core sampling in 2012 involved an automated core saw, which, in competent rock, should remove sampling bias. The same side of the core was taken during sampling.
	There is no obvious relationship between sample recovery and grade. The poor precision in Bibra assays hinders this analysis to some degree, however the review was completed and no clear relationship observed. Sample bias was observed as measured by the sample weights program. Every attempt was made to minimise this by cleaning the collection system and re-levelling the splitter regularly. There is no evidence for a preferential loss or gain of fine/coarse material in the RC drilling. There may have been loss of clays in regolith core before the cutting procedure was changed to half core only rather than quarter core in the HQ/HQ3 core, and minimal addition of water during sawing.
Logging	Geological logging of core and RC chips used standard logging digital data entry objects and the IGO coding system. Data on rocktype, deformation, colour, structure, alteration, veining, mineralisation and oxidation state were recorded. RQD, magnetic susceptibility and core recoveries were recorded in spreadsheets. For RC chips sample quality and weights were also recorded, including whether wet or dry. All data were imported to the acQuire database in Perth. Logging is adequate and sufficient detail has been gathered for resource estimation, mining and metallurgical studies.
	Logging is both qualitative and quantitative or semi-quantitative in nature. Core was photographed both dry and wet and copies of the digital images stored on the IGO Perth server.
	Each hole is logged and sampled in full.
Sub-sampling techniques and sample preparation	All core has been cut into half or quarter core for sampling. For early drillholes KBRC005-010, RC composite samples (2m) were submitted to Genalysis where they were sorted, dried and the total sample pulverised in a single stage mix and grind if the sample mass was <3kg. Samples >3kg mass were riffle split using a 50:50 splitter and one half pulverised. Samples were analysed for Au using an aqua regia digestion (AR10/OM) of a 10g pulp sample with ICP-MS determination. Samples that returned values >0.5g/t were submitted to Genalysis as 1m resplit samples and prepared in a similar manner as the composites. For drillholes from KBRC011 onwards (2009-2012), no compositing took place, 1m split RC samples and core samples were submitted to Genalysis for fire assay. Samples were oven dried at 105°C then jaw crushed to -10mm followed by a Boyd crush to a nominal -2mm. Samples were rotary split to 2.5kg (2012 drilling). Samples were then pulverised in LM5 mills to 85% passing 75µm. All the samples were analysed for Au using the FA50/AAS technique which is a 50g lead collection fire assay with analysis by Flame Atomic Absorption Spectrometry. The fire assay method is considered a suitable assaying method for total Au determination. The aqua regia digestion results (used for samples that were <0.5g/t Au) may not allow for total Au determination in the transition and fresh rock zones.

Criteria	Commentary
	present for 5 holes and therefore represent only a very small percentage of the samples
	For core and RC samples the sample preparation technique is appropriate and is standard industry practice for a gold deposit.
	Quality control for maximising representivity of samples included sample weights measuring, insertion of field duplicates and laboratory duplicates. IGO has been aware for some time that 50g fire assay is not giving adequate assay repeatability due to the nuggety gold found at Bibra, even though it is a generally low grade deposit. Testwork during 2012 and 2013 involved assessing the cost and effectiveness of using multiple fire assays (up to 4, averaging the results) to simulate a larger sample mass, as well as 1kg LeachWell tests with fire assay of the tail, and screen fire assays. All methods would improve precision but at significant cost. Testwork on grind time to see if finer particles would improve precision showed that any increase in grind time over 5mins resulted in rolling and plating of the gold particles and did not reduce their size, whereas the gangue minerals were substantially reduced in size. The inability to comminute the nuggety gold particles is part of the poor precision problem when using 50g fire assay charges. Field duplicates were inserted but review of results is hampered by the assay repeatability problem when using the 50g fire assay or LeachWell assay (with tail assay), and which used much larger sample mass (1kg) for each of those methods, showed much better precision in comparison. Laboratory duplicates (50g fire assay) showed the effects of the nuggety gold at Bibra also, with poor precision seen in paired data plots. Screen fire assay data has shown that the sieved fraction below 75µm shows dramatically improved precision and that the fraction with the +75µm particles is causing the repeatability issue. IGO is investigating cost effective analysis methods using a larger sample size.
Quality of assay data and laboratory tests	The 50g fire assay is a total extraction method and under normal circumstances would be a suitable method. At Bibra, the nuggety gold grains are problematic in that 50g fire assay does not always provide repeatable results, on an individual sample basis. Overall drillhole intercepts, and within block model blocks where numerous samples are used for grade interpolation, the poor assay repeatability becomes much less of an issue. Twin holes from the 2011 drilling showed that over an intercept, the grades and lengths of mineralisation compared well, whereas at the individual assay level the results are highly variable. IGO is investigating cost effective methods to improve repeatability of assays. This is in preparation for more selective mining assessment and for grade control purposes in future, as well as greater confidence in results from review of check assay programs.
	blanks (1 in 50 or two blanks after visible gold) and field duplicates (2 in 100) in batches of samples submitted to the laboratory. In addition, 5% of pulps are submitted back to the primary laboratory (renumbered) as well as to an umpire laboratory for cross-checking. Batches were re-assayed if they failed the accuracy checks or showed consistent bias. Control charts show the accuracy has been reasonable (some low bias to -4%) and contamination minimal. Bias will need to be monitored more closely in future. No significant contamination was noted. Precision is poor as has been described previously.
Verification of sampling and assaying	From 2011, qualitative verification of mineralised zones has been through field panning. Significant intersections are checked by staff to see they meet the known geological and mineralisation models. Significant intersections are also checked by senior company personnel.
	Analysis of the RC/diamond hole twinning up to the end of 2011, showed that mineralised intervals above a cut-off grade of 0.3g/t Au were similar in length and moderately well correlated in grade. This suggests there has not been any significant downhole smearing in the RC drilling and sampling. It also shows

Criteria	Commentary
	that averaging of numerous assays over an interval gives repeatable results compared with poor repeatability at the individual assay level, as described above. No twin holes were drilled in 2012.
	Primary data are collected in Excel spreadsheets, Field Marshall files or using off-line acQuire data entry objects on electronic Notebooks. Data are imported directly to the database with importers and have built in validation rules. Assay data are imported directly from digital assay files and are merged in the database with sample information. Data are uploaded to a master SQL database stored in Perth, which is backed up daily. Data are reviewed – missing data, incorrect data, as part of the resource estimation process, on an annual basis.
	From time to time assays will be repeated if they fail company QAQC protocols, however no adjustments are made to assay data once accepted into the database.
Location of data points	2009 - 2012 drillhole collar positions were surveyed by licensed surveyors MHR Surveyors of Cottesloe, WA after drilling was completed. The instrument used was a Trimble R8 GNSS RTK GPS (differential) system. Expected relative accuracies from the GPS base station were ±2cm in the horizontal and ±5cm in the vertical direction. Co-ordinates were surveyed in the MGA94 grid system. Downhole surveys in 2009 & 2010 were carried out by the drillers at about 50m intervals using a Reflex EZ shot digital downhole camera. Readings were taken in a non-magnetic stainless steel rod near the bottom of the drill string. The depth, dip, azimuth and magnetic field were recorded at each survey point. In 2009 gyro surveys were attempted however most holes had collapsed and the gyro survey was successful to end of hole in only one drillhole. The top parts of other holes were surveyed using the gyro instrument (Downhole Surveys Australia, readings at 5m intervals) and given priority over Reflex surveys in the database. The gyro survey was not continued in 2010 due to the limited success of the 2009 program. Downhole survey readings have been checked by extracting the drillholes and displaying them in graphics in the Surpac software program, with spurious readings removed by assigning them a lesser priority in the database. The lesser priority surveys were not used during the resource estimation. Drillholes KBRC101-105;107-123;125-129;131-134 had only one survey downhole (near the bottom of the hole) due to their short lengths (<112m long). In 2011 the frequency of downhole surveys in new drillholes was increased to about 30m intervals. Surveys were carried out by the RC drillers using a Camteq Proshot electronic camera and by diamond drillers using a Pathfinder Electronic Single Shot camera. In 2012, both RC and diamond drilling used a Reflex EZ-Trac tool. Surveys were carried out every 30m downhole. Camera calibration certificates prior to the commencement of drilling have been collected since 2011 as a check on camera accuracy. Th
	Drillhole location data were initially captured in the MGA94 grid system and have been converted to a local grid for resource estimation work. The MGA94 ties to local grid were surveyed by independent surveyors MHR Surveyors. An elevation adjustment of +2000m was also conducted on the local grid co- ordinates.
	The natural surface topography was modelled using a DTM generated from the 2012 airborne LiDAR survey conducted in November 2012 by AAM Pty Limited. The DTM was rotated in-house to the local grid co-ordinate system. Horizontal point accuracy is expected to be <0.33m and vertical accuracy to 0.15m. Ground control was established using RTK GPS and ALTM3100 Static GPS. The reference datum was GDA94 and the projection was MGA Zone 50, with the data supplied as 50cm and 1m contours in MGA Zone 51. Topographic control is of good quality and is considered adequate for resource estimation.
Data spacing and distribution	Drilling results are part of a greater nominal 100 x 50 metre grid.

Criteria	Commentary
	Data spacing and distribution has been taken into account in the classification of Inferred Mineral Resource. Samples were composited to 1m lengths.
Orientation of data in relation to geological structure	Drilling is mostly oriented local grid east at an average dip of 60°. A number of holes were drilled vertical in 2011 when delineating higher grade shoots. These holes were drilled perpendicular to the continuity direction. The orientation of the drilling is suitable for the mineralisation style and orientation encountered to date. No sampling bias has occurred due to orientation of the drillholes.
Sample security	Samples are sealed in calico bags, which are in turn placed in large poly-weave bags and cable-tied. A certain number of filled poly-weave bags are stacked in a cage secured on a wooden crate and transported directly via road freight to the laboratory with a corresponding submission form and consignment note. Genalysis checks the samples received against the submission form and notifies IGO of any missing or additional samples. Once Genalysis has completed the assaying, the pulp packets, pulp residues and coarse rejects are held in their secure warehouse. On request, these are returned to the IGO warehouse on secure pallets where they are documented for long term storage and retrieval. In addition, a sample tracking register is kept where samples dispatched to the laboratory are tracked until return of the assays to IGO.
Audits or reviews	A review of practices documented in the IGO technical report supplied to Optiro Pty Ltd in 2012 as part of the resource estimate review did not highlight any significant issues. The reviews by the Competent Person from site visits highlighted some issues which were addressed.

# Section 2 Reporting of Exploration Results

Criteria	Commentary
Mineral tenement and land tenure status	The Bibra mineralisation is within the granted E52/1711 exploration tenement in the Pilbara region of Western Australia. E52/1711 was acquired from BHPB in 2008. BHPB retain a 2% NSR and a claw-back provision whereby BHPB can elect to acquire a 70% equity in the project only if JORC compliant reported resources of 5,000,000 ounces of gold and/or 120,000 tonnes of contained nickel have been delineated.
	The Nyiyaparli group are Native Title claimants covering an area including E52/1711. There are no known heritage or environmental impediments over the lease. A mining lease sufficient in size to cover the Bibra resource area and potential associated infrastructure for a future mining operation has been applied for, and IGO is currently in negotiation with the Nyiyaparli group over this application.
	The tenure was secure at the time of resource estimation and reporting. No known impediments exist to operate in the area.
Exploration done by other parties	The Bibra mineralisation was discovered by IGO after a geochemical anomaly was defined along strike and underneath surface cover with broad spaced aircore drilling in 2009. The area surrounding the Bibra deposit had previously been unexplored until WMC discovered gold mineralisation at the Francopan Prospect 5km south-east of the Bibra deposit in 2004 and IGO acquired the project in 2008.
	information provided by IGO.
Geology	The Bibra deposit is hosted in an Archaean greenstone belt in the Pilbara region of Western Australia. The host rocks are an amphibolite hangingwall and

Criteria	Commentary
	chlorite-biotite-garnet-feldspar schist footwall. Gold mineralisation has been intersected over a wide area at Bibra with at least 4 sub-parallel lodes identified. The lodes strike NE-SW (MGA94) and plunge shallowly to the NW in typically wide, low grade zones. A series of shallowly NW plunging rod-like higher grade shoots have been identified within the more continuous lower grade halo. Primary gold mineralisation in fresh rock is marked by 3-10% sulphides, subhedral magnetite grains, quartz vein/veinlets and fine grained gold. Mineralisation in fresh rock continues to near surface in the oxide zone and includes a laterally extensive supergene horizon that is hosted within a laterite.
Drill hole Information	There are no exploration results reported for the immediate Bibra area that have not been reported previously. See Table (1) Above.
Data aggregation methods	There are no exploration results reported for the immediate Bibra area that have not been reported previously. See Table (1) Above.
Relationship between mineralisation widths and intercept lengths	All results reported in Table (1) are down hole widths. The geometry of the deposit is well constrained and it is clear that most intersections at Bibra are close to true width.
	The Francopan deposit drill results are all reported aa down hole widths. There are currently no clear constraints on the geometry of the mineralisation due to the drill spacing.
Diagrams	The diagrams in the report provide sufficient information to understand the context of the drilling results.
Balanced reporting	There are no exploration results reported for the immediate Bibra area that have not been reported previously.
Other substantive exploration data	There are no exploration results reported for the immediate Bibra area that have not been reported previously.
Further work	Further work will involve drilling (RC and Diamond) to upgrade and expand the Bibra resource. In addition work will involve large scale (regional) step-out drilling for determination of additional mineralisation.

# Section 3 - Estimation and Reporting of Mineral Resources

Criteria	Commentary
Database integrity	Data are collected by the geologists and field staff in either Excel spreadsheets or acQuire data entry objects on laptops for RC and diamond drilling. Previously, Field Marshall has been used to capture data from drilling programs. Once the geologists are confident that the data are correct and complete, the files are emailed to the Database Administrator in Perth or copied to a designated data folder on the server. These data files are then loaded into a Master Data Management (MDM) SQL database using acQuire software as the front end. If any errors occur during the loading and validation of the data, a note is made and emailed to the relevant geologist to advise and correct the data. Assays are received from the various independent laboratories in electronic ASCII files of varying format, and are merged with sampling data already present in the database. Assays received from laboratories were imported by the Database Administrator using customised acQuire importers thus alleviating any data entry mistakes. The acQuire database for the Bibra Prospect is exported to an Access database and reviewed for errors prior to resource estimation work. The acQuire drilling database had been compiled and validated by IGO on an ongoing basis through to the Access database dump in June 2013 for resource work.
Site visits	Site visits by the IGO Competent Person were conducted on 7 November and 20 November 2012. Recommendations were made regarding RC sampling, core

	sampling in the regolith zones, core density measurements, general QAQC, and equipment and cleanliness.
	Malagasy personnel have visited site as part of the due diligence process.
Geological interpretation	Confidence in the geological interpretation is moderate, given the wide-spaced drilling. Stratigraphy seems consistent in that it can be correlated between holes and along strike. It is expected that refinements to the geological model will be made with increased density of drilling.
	Drillholes are wide-spaced and as such the interpretation has been kept simple. Geological logging and structural measurements from drillholes has been used to construct the geological model and northern fault. Sections were interpreted, digitised and a 3D wireframe model constructed. Geological continuity has been assumed along strike and down-dip.
	The interpretation will evolve as drilling spacing decreases and more information becomes available for modelling, however the overall impact on Mineral Resources is expected to be low. It is unlikely that an alternative interpretation will develop. There is currently sufficient drilling to broadly map the stratigraphic units and the supergene zone.
	The geological model has been used to guide mineralisation envelopes and subsequent mineralisation wireframe modelling. The interpreted fault zone in the north end has disrupted the stratigraphy and the mineralisation model was built to conform with the geological model. Changes in this area of the interpretation are expected when additional drilling is completed.
	Geological continuity has been assumed along strike and down-dip based on reasonably wide-spaced drilling data. Factors that might affect continuity are that with closer-spaced drilling the geological model could become more complex if new faults are discovered that are currently undetectable. In general, continuity both geologically and grade-wise is good. Grades and thickness are more consistent down-dip than along strike.
Dimensions	The Bibra mineralisation wireframes have been extended large distances down- dip based on very wide drilling intercepts, however this extrapolation has been removed from the resource estimate by limiting the reported tonnes and grade to within a conceptual optimal pit shell (\$1600/oz Au). The supergene zone modelled was 900m along strike and 230m wide in the NE widening to 560m in the southern half. It ranges from 1.7m to 14m in vertical thickness. The primary mineralisation extends below the supergene zone for a further vertical depth of 270m. The transition/fresh rock boundary is about 60m below surface. The primary mineralisation has 4 main sub-parallel zones and several smaller zones. The main zone is 740m long (N-S) and 970m wide (horizontal width) at its widest part in the north, tapering to 300m wide (horizontal width) at the southern end. Note that only a portion of this mineralisation has been classified as resource (i.e. that portion within the region defined by the 100m x 50m spaced drilling or closer, and within the conceptual optimal pit shell). The thickness to 30m in the thickest part.
Estimation and modelling techniques	Higher grade wireframe domains were built for mineralisation above 1.0g/t Au in the supergene zone and 1.5g/t Au in the main zones in order to constrain the higher grade portions of the mineralisation. Ordinary Kriging was used for grade estimation utilising Surpac software v6.4.1. Search and kriging parameters were derived from variogram models for Au. The block dimensions were 20mY, 10mX and 10mZ for parent cells, sub-blocked to 10mY, 5mX and 1.25mZ. Grade estimation was constrained to blocks within each of the mineralisation wireframes. The major direction search distance in the supergene mineralisation was 150m. In the primary mineralisation the major search distance was 80m for pass 1 and 160m for pass 2. The search bearing for the main zone was 180° with plunge of -8° and dip of -15°. Search ellipse alterations were made for changes in wireframe geometry and in the lesser mineralised zones. The maximum number of samples used for grade interpolation was 50 (min 25, reducing to 6 in smaller zones) and 5 maximum per drillhole.

	This estimation technique is suitable for a global model. A local uniform conditioned model was also generated to test the effect of modelling at the selective mining unit (SMU) scale. Results are preliminary and require closer spaced drilling for better modelling, however they suggest that the effect of mining SMU sized blocks could be lower tonnes at a slightly higher grade, for cut-off grades up to 1.0g/t Au on the grade tonnage curve. This estimate is similar to that of 2012. Grades are similar and tonnes have reduced slightly due to refinements in the wireframes based on infill drilling. No mining has occurred at Bibra. No assumptions have been made regarding by-products. No deleterious elements are known or expected. Block size was based on Kriging Neighbourhood Analysis. The block size is reasonable for drilling at a 50x50m pattern. Anisotropic searches were employed and were based on variography. The block size is reasonable for the search distance used for Pass 1. Modelling of selective mining units has taken place in preliminary studies but is not part of this resource estimate. Closer spaced drilling is required for better modelling at SMU scale. Only Au has been modelled. The geological interpretation was used to control mineralisation modelling and to assign densities to rock-types. Top-cuts were established after a study of statistics, histograms and log- probability plots for the main domains. A top-cut of 10g/t Au was determined for the supergene zone (Co-efficient of Variation (CV) = 1.35, 4 samples top-cut) and 16g/t Au for the main mineralisation (CV) = 1.76, 21 samples top-cut)
	percentiles for cutting are less than $0.5\%$ of the samples. There is only a small number of high grade samples at Bibra.
	The block model is checked visually in Surpac graphics by comparing drillhole assays with block grades. Blocks with no interpolated grades are checked and corrections made to the model. Swath plots are generated to compare block grades with sample composite grades on a sectional and plan slice basis.
Moisture	Tonnages have been estimated on a dry basis. Core samples in the oxide zone have been measured for density after drying and coating at an independent laboratory. Transition and fresh rock samples have been tested uncoated on site after sun-drying, and added to the database of samples tested by the independent laboratory. New measurements in 2012 confirmed earlier density measurements for rocktype and oxidation.
Cut-off parameters	The mineralisation has been wireframe modelled using a 0.3g/t Au assay cut-off grade. The resource estimate has been reported above a block grade of 0.5g/t Au. Cut-off grades will be refined as the mining and metallurgical processes become better defined.
Mining factors or assumptions	Currently a medium-sized contractor-operated open-pit mining option is the basis for the cut-off grade. The shallow dip precludes using large bench heights without incurring significant dilution. Ore and waste would be paddock blast on 5m benches and subsequently excavated as 2.5m flitches utilising a conventional excavator and truck mining fleet to facilitate moderate ore excavation selectivity.
Matalluraical factory	
metallurgical factors or assumptions	Systematic metallurgical testwork programs over 2012/13 on master and variability composites from diamond core identifies mineralisation as free milling and amenable to cyanidation. Adoption of a conventional gravity and carbon-in-leach process circuit design is likely to yield gold recoveries in the low to mid 90%'s for fresh and oxide material respectively. The leach rates improved

	<ul> <li>considerably in the Pre-Feasibility Study testwork with the addition of gravity recovery to the flowsheet, with the gravity gold component being measured at between 35-55% for the Fresh mineralisation and 19-62% for the oxide mineralisation.</li> <li>Physical testwork indicates bond work indices of 13kWh/t to 20KWh/t and low to moderate abrasion indices.</li> <li>The larger sample sizes used in the metallurgical testwork program in 2013 have seen reconciled head grades increase 0% to &gt;20% when compared with the weighted average grade for the 50g fire assays of the individual drill core samples. This positive trend has been relatively consistent and reinforces the lesser, but also consistently positive reconciliation trend seen when larger sample size assays (such as 1kg screen fire assays) are compared with traditional 30g or 50g charge fire assays.</li> <li>This apparent positive reconciliation trend with larger sample sizes has not been factored into the resource estimation or associated mining factors. It remains an apparent trend that will need further testwork to fully and more properly quantify the effect.</li> </ul>
Environmental factors or assumptions	Waste rock from open pit operations would be placed in a waste rock landform adjacent to open pit operations, progressively contoured and revegetated throughout mine life.
	Process plant residue would be disposed of in a surface tailings storage facility (TSF) to the immediate south. Adoption of an upstream, central decant design would utilise mine waste material for dam wall construction and facilitate water recovery to supplement process water requirements. It is expected that sufficient volumes of oxide material, able to be made sufficiently impermeable, will be available in the overburden stream to enable acceptable TSF construction.
	Geochemical testwork on mineralised and non-mineralised waste regolith and bedrock samples indicates the material to be non-acid forming.
Bulk density	Densities were based on measured densities sorted by rock type and oxidation state. Outliers were removed and remaining measurements were averaged for each rock type and oxidation state domain.
	In the 2012 core drilling program, all samples sent for analysis from the transition or fresh rock zones were density measured. Initially, 10cm pieces of core were selected from each sample and density measured, but this was changed to entire samples after the site visit by the Competent Person in November 2012.
	Density determination by IGO was by the water immersion method. The independent laboratory used two methods – both involved oven drying and wax coating the samples and water immersion. The density database has a total of 1585 measurements for Bibra.
	Densities measured at the independent laboratory accounted for void spaces and moisture. Densities measured by IGO were in competent core that was sun-dried but uncoated. Natural moisture in the competent core is expected to be low. On-site testing in future will use improved methods and equipment.
	As noted above, rock type and oxidation state were the main divisors for density measurements and application to the block model.
	No assumptions have been made for bulk density estimates. Bulk densities assigned to the block model are based on measured data.
Classification	A classification wireframe was built for an area defining the 100 x 50m drill spacing. The wireframe was applied as a cookie-cut to the block model to code all blocks within the wireframe and the oxide, transition and fresh zones as Inferred. All other mineralisation has been left unclassified due to the wide-spaced drilling pattern. Potential exists to upgrade the classification with infill drilling. The inferred mineralisation was further constrained to a \$1600/oz AUD conceptual optimal pit shell. The remainder of the modelled mineralisation does

	not form part of the current resource estimate. The conceptual optimal pit shell has a pit base at 230m below surface.
	The Inferred classification reflects the relative confidence in the estimate, the wide-spaced drilling input data, the assay repeatability and the assumed continuity of the mineralisation.
	The classification as Inferred reflects the IGO Competent Person's view of the deposit.
Audits or reviews	The resource estimate and technical documentation for 2012 was reviewed by Optiro Pty Ltd in October 2012 and recommendations from that review have been included in the resource estimate for 2013.
Discussion of relative accuracy/confidence	The confidence level is reflected in the Inferred classification of the estimate. Mineralisation modelled but outside the criteria used for classification as Inferred has been excluded from the estimate.
	Potential for upgrading the classification exists if closer spaced holes are drilled, continuity is proven, and RC sampling issues and assay repeatability are addressed.
	The Mineral Resource estimate is an undiluted global estimate.
	There is no production data to compare the resource estimate with, as Bibra has not been mined.
Resource Model Number	BI_RSC_2013_06