

# ASX RELEASE

28 June 2012 *Total Pages: 8* 

ASX Company Announcements **Australian Securities Exchange**Level 4, 20 Bridge Street

SYDNEY NSW 2000

# KARLAWINDA GOLD PROJECT (100% IGO) BIBRA RESOURCE ESTIMATE TRIPLED IN SIZE AND SCOPING STUDY WELL UNDERWAY

- Inferred Mineral Resource estimate for Bibra deposit, within IGO's Karlawinda Gold Project in Western Australia, increased 207% to 674,300 ounces of contained gold.
- Scoping Study well underway. A positive outcome would progress the Project to Pre-Feasibility Assessment in 2013.

#### **OVERVIEW**

Independence Group NL (IGO) is pleased to announce the completion of an updated Mineral Resource estimate for the Bibra deposit within the Karlawinda Gold Project (IGO 100%). **The Inferred Mineral Resource estimate for the Bibra deposit has increased by 207% to 674,300 ounces of contained gold\*** i.e. more than triple the size of the previously reported 219,900 ounces.

The Scoping Study is well-advanced. It is being undertaken on the basis of both a Carbon-In-Leach [CIL] processing scenario and a Heap Leach scenario. The CIL scenario is due for completion next Quarter. Heap Leach test work columns were set up this month. Open pit mining studies and process engineering design work have also commenced.

The growth in the Inferred Mineral Resource estimate primarily reflects the addition of fresh rock mineralisation following the success of the CIL test work carried out to date.

## **LOCATION**

The Karlawinda Gold Project is located approximately 65km SE of Newman in Western Australia (Figure 1 below).

#### **NEW INFERRED MINERAL RESOURCE ESTIMATE\***

The Bibra Inferred Mineral Resource estimate is within a conceptual A\$1,600/oz Au optimal pit shell. The Resource estimate has increased to **18.5Mt** @ **1.1g/t** Au (674,300oz), using a 0.5g/t Au cut-off grade and reflects the addition of fresh rock mineralisation. This represents an increase of 454,400oz over the previous Mineral Resource estimate of 219,900oz reported to the ASX in the Quarterly Report for the 3 months ended 31 March 2011.

\* This estimate has been reported in accordance with the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (2004), the JORC Code.



A breakdown of the updated Inferred Mineral Resource estimate is given in *Table 1* below.

Table 1: Bibra Inferred Mineral Resource Estimate – June 2012

Mineralisation Type	Tonnes (Mt)	Au Grade (g/t)	Contained Oz (Cut)
Laterite	2.2	1.1	77,100
Upper Saprolite	0.9	1.1	31,000
Lower Saprolite	1.9	1.1	63,600
Transitional	2.1	1.0	68,200
Sub-total	7.1	1.1	239,900
Fresh	11.4	1.1	434,400
Total Inferred	18.5	1.1	674,300

Note: The Inferred Mineral Resource estimate was calculated within a conceptual A\$1,600/oz Au pit optimisation and for the area of drill coverage at 100m x 50m spacing. Au (oz) figures have been rounded to the nearest 100oz. The parameters relevant to the estimation of this Mineral Resource are provided in *Table 2* below.

#### **GEOLOGY**

Mineralisation is hosted in meta-arenite and amphibolite lithologies in a previously unrecognised Archaean greenstone belt situated immediately to the south of the Sylvania Inlier beneath thin transported cover. Gold mineralisation at Bibra has been identified near surface, in the weathered lithologies (oxide mineralisation) and at depth within the fresh rock.

The deposit represents a significant new greenfields discovery by IGO and mineralisation is open along strike and down dip (*Refer Figures 2 and 3 below*). Additional drilling to test positions along strike as well as several other stand-alone targets is planned for the second half of the year.

Yours sincerely

Chris Bonwick
Managing Director
Independence Group NL

## **Competent Persons Statement**

The information in this report that relates to the Bibra deposit Mineral Resource estimate is based on information compiled by Ms Michelle Wild. Ms Wild is a full-time employee of the Company and is a Member of the Australasian Institute of Mining and Metallurgy. Ms Wild has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which she is undertaking to qualify as a Competent Person, as defined in the 2004 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources & Ore Reserves'. Ms Wild consents to the inclusion in the report of the matters based on her information in the form and context in which it appears.

The information in this report that relates to Exploration Results is based on information compiled by Mr Christopher M. Bonwick. Mr Bonwick is a full-time employee of the Company and is a Member of the Australasian Institute of Mining and Metallurgy. Mr Bonwick has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2004 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mr Bonwick consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

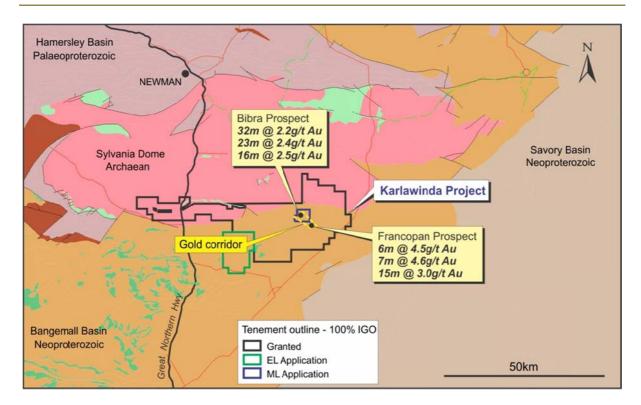


Figure 1: Karlawinda Gold Project – Location, 65km SE of Newman, Western Australia.

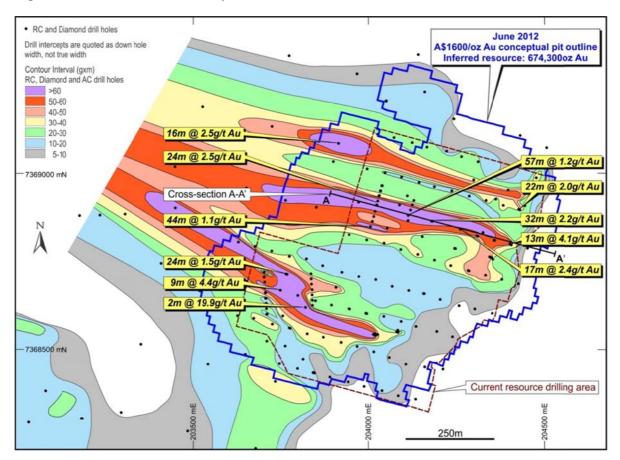


Figure 2: Bibra Resource area – gram x metre contours with A\$1,600/oz Au June 2012 conceptual optimised pit outline, RC and diamond drilling collar locations (AC collars omitted) and Figure 3 A-A' cross-section location.

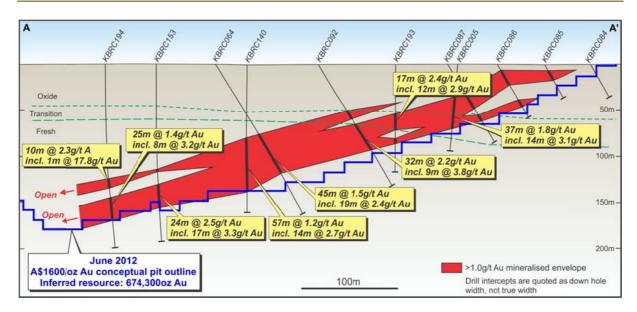


Figure 3: Bibra cross-section with mineralisation and June 2012 conceptual optimal pit outline (\$1,600/oz Au).



# Table 2: Bibra Inferred Mineral Resource Estimate Parameters – June 2012

GEOLOGICAL SETTING	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 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 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.
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. Numerous aircore holes have been drilled into the project but these were not used in the resource estimate.
DRILLHOLE SPACING	The drilling pattern is nominally 200 x 200m, reducing to 100m (along strike) x 50m (across-strike) in the north east where the Bibra prospect resource is located.
DRILLHOLE COLLAR POSITIONS	2009 - 2011 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. No local grid has been established as yet.
DRILLHOLE DIRECTIONAL CONTROL	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 Profile drillers using a Camteq Proshot electronic camera and by Drill West drillers using a Pathfinder Electronic Single Shot camera.  The downhole surveys are considered to be of adequate quality for resource estimation work, however it was noted that magnetic downhole surveys were used without correct to grid azimuth. The correction is less than 2° and will be rectified in future work.
GEOMETRY OF INTERCEPTS	Drilling intersects the mineralised lodes almost perpendicular to the lode orientation at Bibra. High grade shoots that appear to have developed parallel to the metamorphic fabric in a rod-like geometry (plunging NW) were drilled in short fences of shallow vertical holes.
SAMPLING TECHNIQUES	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). Later, RC samples were collected using a rig-mounted cone splitter that split the 1m cuttings into 87½% & 12½% splits. RC samples were not composited and 1m interval samples were sent directly to the laboratory. NQ2 core was half-core sampled and PQ and PQ3 core was quarter-core sampled using a



	manual core-cutting diamond saw without water. 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.
DATA SPACING AND DISTRIBUTION	The data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Inferred Mineral Resource classification applied. Infill drilling will allow better geometry definition of high grade shoots and for better grade estimation, as well as increased confidence and classification.
SAMPLE PREPARATION AND ASSAYING	For 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 (2009-2011), no compositing took place and 1m split samples were submitted to Genalysis for fire assay. All the 1m splits 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 results are 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. These aqua regia samples are above the modelling cut-off grade (0.3g/t Au) but below the estimate reported cut-off grade (0.5g/t Au), however are only present for 5 holes and therefore represent only a very small percentage of the samples.
AUDITS OR REVIEWS	No audits or reviews of the database have been conducted for this deposit.
SAMPLE COMPOSITING	Samples were composited to 1m downhole composites with length weighting, for statistical and estimation purposes. Samples with assays below detection limit were converted to a grade of half the detection limit prior to compositing. A minimum composite length of 0.75m was accepted and lengths smaller than this were rejected. Samples were composited within wireframe boundaries.
QUALITY CONTROL PROCEDURES	QAQC procedures have been carried out to normal industry standard with inclusion of certified standards, blanks and field duplicates. Selected samples have been analysed by the Genalysis Leachwell technique (a 1kg accelerated Cyanide Leach Process with determination by Flame Atomic Absorption Spectrometry) as well as the fire assay technique. Check assaying has included umpire checks on pulps. Levels of accuracy are reasonable although Genalysis has had some problems with cupels and absorption of low levels of gold, resulting in lower assay grades than expected. Umpire-lab check sample and duplicate sample scatterplots show large variability and quite poor precision, and this is being investigated. The cause of this has yet to be determined. Screen fire assays for gold and SEM studies on gold and sulphide particles are in progress. The inferred classification of the resource estimate is a reflection of the wide data spacing as well as the poor precision noted to date.  Analysis of the RC/diamond hole twinning 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.
DRILL SAMPLE RECOVERY	Core sample recovery was generally good. Holes where core recovery was poor and there was an adjacent RC hole with good recovery (as in the clustering of twin holles) then the RC hole was given preference over the core hole during grade estimation. RC sample recovery was also good. Sample quality was recorded during logging (wet/dry samples – all dry in the case of Bibra) and qualitative recovery codes (C=contaminated, G=good, M=moderate, O=oversize, P=poor, U=undersize) were assigned to each sample. There was no preferential loss or gain of particular sample fractions during the sampling process at the rig. Representative RC samples for 1m intervals were obtained from the use of the cone splitter.
GEOLOGICAL LOGGING AND PHOTOGRAPHY	Core was photographed both dry and wet and copies of the digital images stored on the IGO Perth server. Geological logging of core and RC chips used standard logging sheets and the IGO coding system. Data on rocktype, deformation, colour, structure, alteration, veining, mineralisation and oxidation state were recorded. RQD and core recoveries were recorded in spreadsheets. For RC chips sample quality was recorded, including wet/dry and recovery. 10% of the RC samples were weighed in totality and compared with the expected weight for the given volume, with approximate recoveries able to be calculated. All data were imported to the Datashed database in Perth. Logging is adequate and sufficient detail has been gathered for resource estimation.



GEOLOGICAL INTERPRETATION	An assay cut-off grade of 0.3g/t Au was used to define the boundaries of the gold mineralisation. In the supergene zone, wireframes were extended 25m down-dip (horizontally) past the last mineralised drillhole intercept and 25m along strike. In the primary zone, wireframes were extended 25m down-dip of the nearest intercept and 50m along strike (or 25m along strike where they were discontinuous pods). A downhole length of 2m was used as the minimum intercept length as well as the minimum for exclusion of internal waste. Only RC and Diamond drillholes were used for wireframe modelling and grade estimation.
	Surface wireframes that were applied to the block model were the base of surficial cover, laterite, upper saprolite, lower saprolite and transition zone. Oxide (laterite, upper and lower saprolite), transition zone and fresh rock mineralisation was included in the 2012 resource estimate. Model blocks that were within the 100m x 50m drill spacing area were included as Inferred resource, further constrained to a \$1,600/oz AUD conceptual optimal pit shell. The remainder of the modelled mineralisation does not form part of the current resource estimate.
	Confidence in the interpretation of the major zones of supergene and primary mineralisation is high, despite the wide-spaced drilling, as these zones seem continuous and consistent. They form the majority portion of the resource estimate. Infill drilling would increase the confidence by testing the continuity seen in the wide-spaced drilling and allow for potential upgrade to Indicated resource.
	Grade estimation has been flagged as an area for investigation due to the poor precision (repeatability) seen in the check samples. This may impact on the resource grade and its reliability and adds further support to the classification of the resource as Inferred at this point in time.
DIMENSIONS	The supergene zone modelled was about 750m along strike and 230m wide in the NE widening to 570m in the SW half. It ranges from 1.7m to 13m in vertical thickness.
	The primary mineralisation extends below the supergene zone for a further vertical depth of about 270m. The transition/fresh rock boundary is about 60m below surface. The primary mineralisation has 3 main zones and several smaller zones. The largest zone is about 740m long and about 1,000m wide at its widest part in the NE tapering to about 300m wide at the southern end. Note that only a portion of this mineralisation has been classified as resource (ie that portion within the region defined by the 100m x 50m spaced drilling and within the conceptual optimal pit shell). The thickness of the main primary mineralisation zone ranges from 1.7m vertical thickness to 25m in the thickest part.
ESTIMATION AND MODELLING TECHNIQUES	Ordinary Kriging was used for grade estimation utilising Surpac software v6.1.4. Search parameters were derived from variogram models for Au. Grade estimation was constrained to blocks within each of the mineralisation wireframes. The major search distance in the supergene mineralisation was 150m in the NE direction reflecting the continuous nature of the mineralisation (blanket style) with no dip or plunge. In the primary mineralisation the major search distance was 150m for pass 1 and 300m for pass 2. The search bearing for the main zone was 55° with plunge of -13° and dip of 12°. 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 30 (min 6) and 4 maximum per drillhole.
BLOCK MODELLING	Parent cells of 10mX, 20mY, 5mZ cell size with sub-cells of 5mX, 10mY, 1.25mZ in a rotated block model (bearing 15°). This parent cell size is considered suitable for drilling on a 50(X) x 100m(Y) pattern. The subcelling allows for better resolution and therefore better tonnage estimation in the narrow zones.
MOISTURE	Tonnages are estimated on a dry basis using the dry density testwork values assigned by regolith code or rocktype.
PREVIOUS MINE PRODUCTION	No previous mining has taken place on the Bibra deposit.
CUT-OFF GRADES, TOP- CUT GRADES	An assay cut-off grade of 0.3g/t Au was used to delineate mineralised supergene and primary zones. A cut-off grade of 0.5g/t Au was applied to the mineralisation for resource estimate reporting. Cut-off grades will be refined as the mining and metallurgical processes become better defined. A top-cut of 7g/t Au for the supergene mineralisation and top-cuts between 4.6-14g/t Au for the primary mineralisation were applied. Top-cut grades were established from log-probability graphs and inflexion points, as well as a review of the Coefficient of Variation for each of the zones.



MINING AND METALLURGICAL ASSUMPTIONS	Open pit techniques have been assumed for the mining of oxide, transition and fresh zone mineralisation. A minimum downhole length of 2m and internal mining dilution limit of 2m downhole have been applied to the mineralisation wireframes. Assumed metallurgical recoveries for carbon-in-leach (CIL) mineral processing range from 95% (oxide), 94% (transition) to 93% (fresh), as suggested by encouraging Leachwell testwork that reported average gold liberation of 97%.  In 2011, column leach testwork assessing gold liberation using Heap Leach methods achieved recoveries greater than 74% over 60 days irrigation, suggesting higher recovery potential with increased irrigation period.  A metallurgical testwork program was commenced in Q2/2012 to consider CIL processing potential, including recovery, abrasion and work indices. A revised column leach program also commenced to assess gold liberation over a 90 day irrigation period. Testwork completion is scheduled for Q3/2012.
DENSITY	In 2010, 26 core samples were submitted to SGS in Perth for density testwork using the simple water immersion technique, after coating with wax. In 2011, a further 65 core samples were submitted to SGS in Perth for density testwork using the simple water immersion technique, but not all samples were wax coated. Testwork was carried out on samples not less than 10cm in length. Density values assigned to the block model were: background of 2.8g/cm³, surface cover 2.1g/cm³, laterite 2.44g/cm³, upper saprolite 2.05g/cm³, lower saprolite 1.93g/cm³, transition zone 2.3-2.5g/cm³ and 2.73-3.05g/cm³ for fresh rock, dependent on rocktype.
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 \$1,600/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.
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 resources of 5,000,000 ounces of gold and/or 120,000 tonnes of contained nickel have been delineated.  The Nyiyaparli group hold the Native Title Claim covering E52/1711 and there are no known impediments in regards to heritage or environmental concerns. 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.
AUDITS OR REVIEWS	No external review has been conducted for this resource estimate at this time.
FURTHER WORK	Further drilling is planned to infill the resource area and to test for additional mineralisation along strike.
RESOURCE MODEL NUMBER	BI_RSC_2012_06