# **ASX Announcement**

Friday 4<sup>th</sup> March 2016





# OF GOLD, OPEN DOWN PLUNGE

# Highlights

- Initial mineral resource estimate of 2.17Mt @ 1.8g/t for 123,000oz gold
- Metallurgical, geotechnical and hydrological work underway
- Remains open down plunge as a narrow high grade lode
- Exploration drilling to start at Monsoon

S2 Resources Ltd ("S2" or the "Company") advises that it has completed the first Mineral Resource estimate for the near surface portion of the Baloo gold deposit, located on its 100% owned Polar Bear project in the Eastern Goldfields of Western Australia. Exploration drilling of the Monsoon and Nanook gold prospects will also recommence shortly whilst various mining and processing testwork programs are undertaken at Baloo.

## Baloo gold deposit

The initial Mineral Resource estimate for the Baloo gold deposit comprises 2,170,000 tonnes grading 1.8g/t gold for a contained 123,000 ounces of gold at a lower cutoff grade of 0.8g/t gold.

1,150,000 tonnes (or 53%) of this is classified as higher confidence Indicated category material, with the balance being lower confidence Inferred category material. 69,000 ounces (or 56%) of the total resource comprises the higher confidence Indicated category material, with the balance being lower confidence Inferred category material.

Table 1 and Figure 1 show the variation in tonnage, grade and contained gold at a variety of lower cutoff thresholds. At a reduced lower cutoff of 0.5g/t gold, tonnage increases by 50% to 3,260,000 tonnes, grade decreases by 21% to 1.4 g/t gold, and contained gold increases by 18% to 145,000 ounces of gold. At an increased lower cutoff of 1.0g/t gold, tonnage decreases by 26% to 1,620,000 tonnes, grade increases by 17% to 2.1 g/t gold, and contained gold decreases by 13% to 107,000 ounces of gold.



	I	ndicated	ł		Inferred			Total	
LCOG	Tonnes (000's)	g/t Au	Oz Au	Tonnes (000's)	g/t Au	Oz Au	Tonnes, (000's)	g/t Au	Oz Au
0.5	1,420	1.6	74,000	1,840	1.2	71,000	3,260	1.4	145,000
0.8	1,150	1.9	69,000	1,030	1.6	54,000	2,170	1.8	123,000
1.0	940	2.1	63,000	680	2.0	44,000	1,620	2.1	107,000

Table 1. Baloo Gold Deposit - Statement of Resources 4th March 2016. All Mineral Resources are reported to JORC 2012 standards. Baloo Mineral Resource reported at 0.8 g/t Au LCOG (lower cut-off grade). All figures are rounded to reflect appropriate levels of confidence. Apparent differences may occur due to rounding.

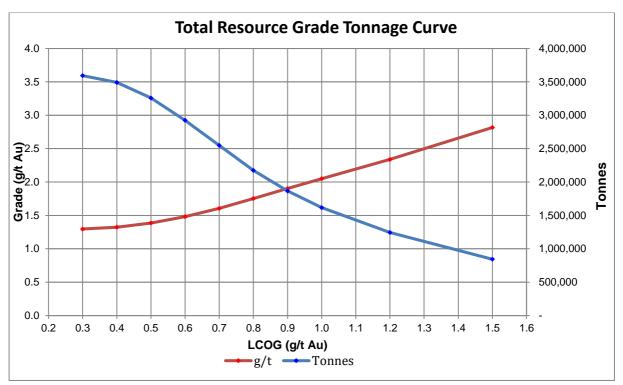


Figure 1. Baloo Gold Deposit – grade-tonnage curve for total Mineral Resources. All Mineral Resources are reported to JORC 2012. LCOG is lower cut-off grade.

A significant proportion of the Total Mineral Resource is located in a localized thick, near surface lens in the central part of the Baloo deposit (see Figures 2 to 4) and most of the Indicated Mineral Resource is also located in this area.

As shown in Figure 4, the 110 metre depth interval of the block model from 2 metres to 112 metres below surface (the 150m to 260m RL interval) contains significant ounces of gold per vertical metre, peaking at over 1,500 ounces per vertical metre. This is the part of the deposit which is most likely to be amenable to potential open pit mining.



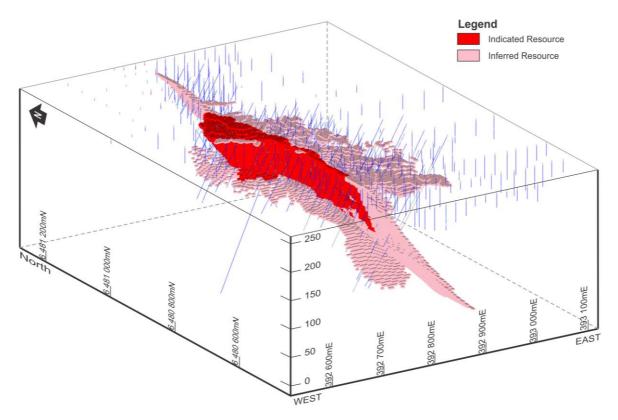


Figure 2. Baloo Gold Deposit – isometric view looking northeast, showing concentration of Indicated Resource category material in the centre of the deposit (most densely drilled) and the central thick lens of predominantly oxide material.

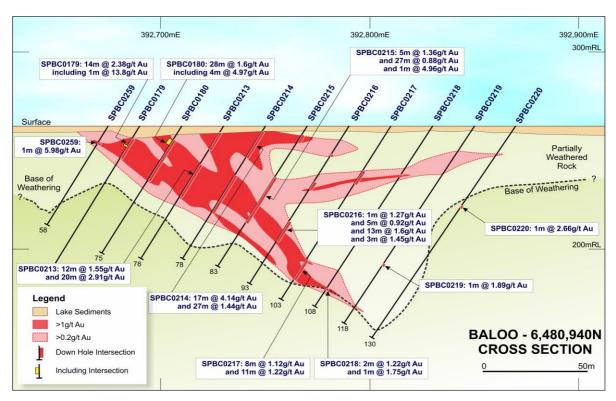


Figure 3. Baloo Gold Deposit – cross section through central part of deposit.



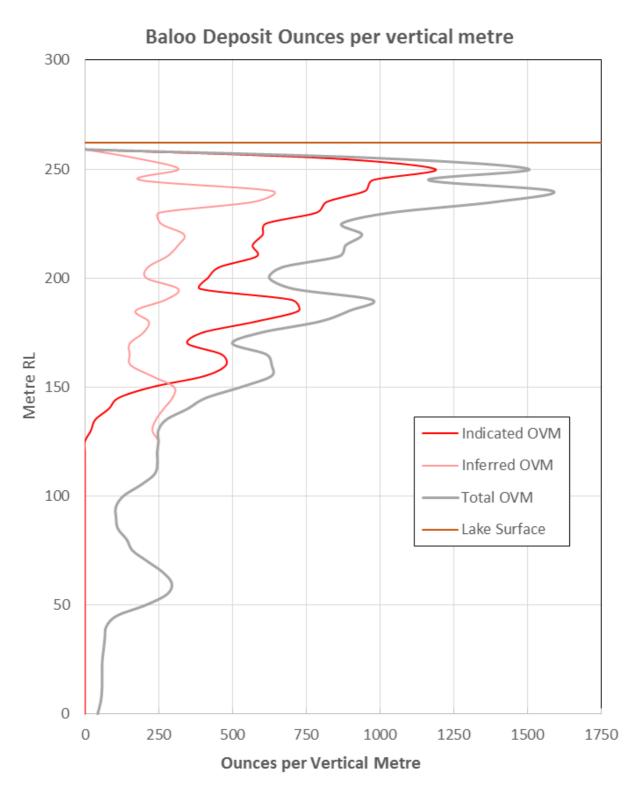


Figure 4. Baloo Gold Deposit – chart showing ounces of Indicated, Inferred and total gold per vertical metre below the salt lake surface at an RL of 262 metres (flat red line) in the resource block model. This shows that the majority of the contained gold and the majority of the Indicated Resource in the block model is located in a 110 metre vertical depth interval from 150-260 metre RL (ie, a depth below surface of 2-112 metres), with significant amounts of gold close to surface.



Near surface oxide and transitional mineralization comprises approximately 61% of the total Mineral Resource and 81% of the Indicated Resource, and this extends south and north from the central zone. The remainder of the resource comprises a deeper primary lode, which plunges to the south and remains open at depth (Figure 5).

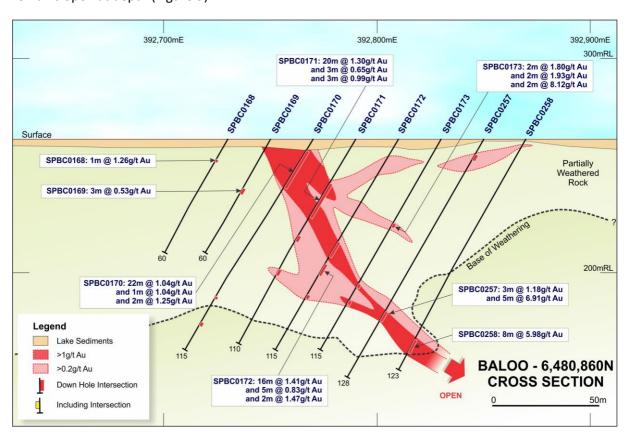


Figure 5. Baloo Gold Deposit – cross section through south plunging primary lode.

A metallurgical testwork program has commenced, with four composite samples representing four distinct oxide and transitional material domains being assessed for their comminution and CIL/CIP recovery characteristics. Testwork is also underway to establish the amenability of the oxide and transitional material to heap-leach extraction.

Geotechnical drilling of the potential open pit position is nearing completion. Geotechnical work on these and other previously drilled holes is underway with the aim of determining likely pit wall slope angles and design criteria.

Hydrological testwork, comprising pump testing of existing drill holes, is also underway to establish potential dewatering requirements.



Environmental studies are well advanced, with flora and fauna studies completed. Lake ecology studies and mine waste characterization studies are currently being undertaken.

## **Exploration**

The Baloo mineralization remains open down plunge to the south, where several narrow but high grade drill intersections indicate the potential for a continuation of the mineralization beyond the limits of the current resource at a vertical depth of between 85 and 160 metres. Future drilling of this area will aim to define the down plunge extent and continuity of the primary gold lode(s).

Baloo is located in the middle of a 30 kilometre long trend. The next drilling to the south of Baloo along this trend is approximately 4 kilometres to the south at the Monsoon prospect, where reconnaissance hole SPBA2833 (the last hole drilled on the last line drilled) intersected 32 metres @ 2.47 g/t gold (see Figure 6).

Once the geotechnical drilling is complete, the lake rig will move to the Monsoon prospect to follow up this intersection, and then on to the Nanook prospect with the aim of defining the extent and magnitude of any additional oxide mineralization prior to deeper drilling at Baloo.

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#### **Competent Persons statement**

The information in this report that relates to Exploration Results is based on information compiled by John Bartlett who is an employee of the company. Mr Bartlett is a member of the Australasian Institute of Mining and Metallurgy. Mr Bartlett has sufficient experience of relevance to the style of mineralisation and the types of deposits under consideration, and to the activities undertaken, to qualify as Competent Persons as defined in the 2012 Edition of the Joint Ore Reserves Committee (JORC) Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. Mr Bartlett consents to the inclusion in this report of the matters based on information in the form and context in which it appears. The information in this report that relates to Mineral Resource estimation is based on information compiled by Mr Brian Wolfe, Principal Consultant Geologist – IRS Pty Ltd and Mr Andrew Thompson, an employee and shareholder of the Company. Mr Wolfe and Mr Thompson are members of the Australasian Institute of Mining and Metallurgy and have sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration to qualify as a Competent Person as defined in the 2012 Edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves" (JORC Code). Mr Wolfe and Mr Thompson consent to the inclusion in this report of the matters based on their information in the form and context in which they appear.



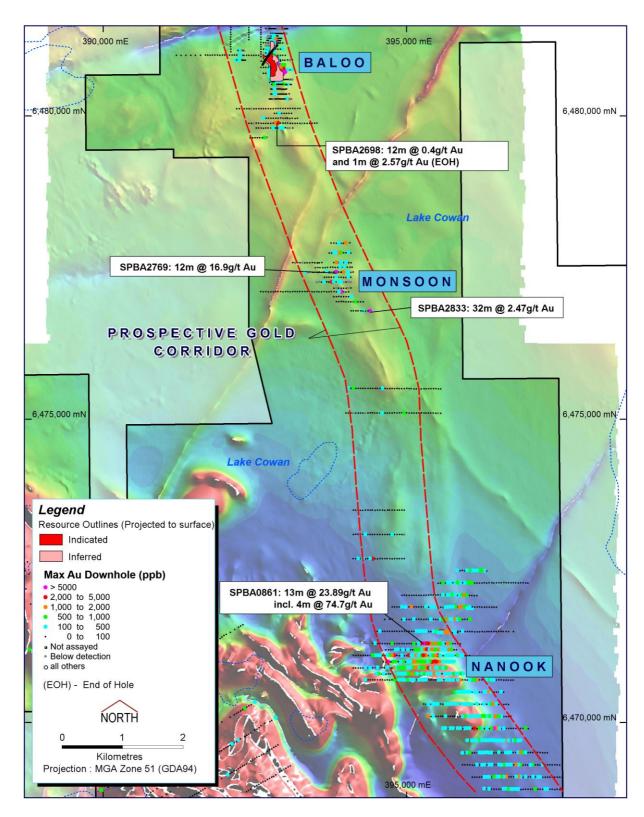


Figure 6. Location of Monsoon and Nanook prospects to the south of the Baloo gold deposit.



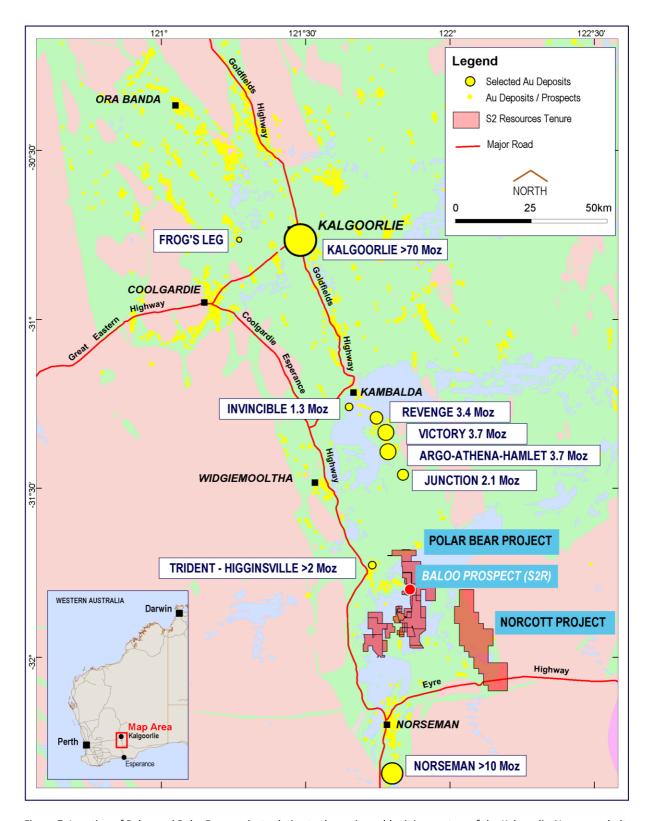


Figure 7. Location of Baloo and Polar Bear project relative to the major gold mining centres of the Kalgoorlie-Norseman belt.



#### Annexure 1

The following Tables are provided to ensure compliance with the JORC code (2012) edition requirements for the reporting of exploration results.

# **SECTION 1 SAMPLING TECHNIQUES AND DATA**

Criteria	JORC Code explanation	Commentary
Sampling techniques		In zones of weakly weathered or fresh rock the HQ or NQ2 core is cut using a diamond core saw with half core sampled for assay. The ore is cut along the orientation line, with the same side sampled to ensure sample is representative.  In zones of highly weathered core where the sample is either
	Nature and quality of sampling (e.g. cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole	highly broken or highly friable and a representative split cannot be achieved then whole core sample of either the PQ3 or HQ3 core is taken.
	gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.	For RC sampling, a 1 metre split is taken directly from a cone splitter mounted beneath the rigs cyclone. The cyclone and splitter are cleaned regularly to minimise any contamination. A second reference split is also taken from each metre and stored on site.
		Aircore holes are sampled using an aluminium scoop to produce a four metre composite sample similar to the RC sampling methodology.
	Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used	Sampling and QAQC procedures is carried out using S2 protocols as per industry best practice.
		Reconnaissance aircore samples are composited at 4 m to produce a bulk 3 kg sample. Samples were dried, pulverised (total prep), and split to produce a 25 g sub sample which is analysed using aqua-regia digestion with ICP-MS finish with a 1 ppb detection limit.
	Aspects of the determination of mineralisation that are Material to the Public Report. In cases where 'industry standard' work has been done this would be relatively simple (e.g. 'reverse circulation drilling was used to obtain 1 m samples from	A 1m end of hole sample was collected for all aircore holes. Sample preparation was the same as above and were analysed using a four acid digest with an ICP/OES and fire assay. The following elements are included in the assay suite: Ag, Al, As, Au, Ba, Be, Bi, Ca, Cd, Ce, Co, Cr, Cu, Fe, K, La, Mg, Mn, Mo, Na, Ni, P, Pb, Sb, Sc, Sr, Te, Ti, Tl, V, W, Zn.
	which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (e.g. submarine nodules) may warrant	RC drilling is sampled a 1m "cone" split sample, to produce a bulk 3 kg sample. Sample preparation was the same as for the aircore drilling. A nominal 50gram sub-sample was collected and analysed by Samples were to produce a sub sample for analysed by fire assay with an AA finish.
	disclosure of detailed information	Diamond core (HQ and NQ2) is half core sampled to geological boundaries of no more than 1m and no less than 30cm. Samples were crushed, dried and pulverised (total prep). Analysis is same as for RC.
		Oxide PQ3 core is whole core sampled and then dried, crushed to -2mm and then rotary split to a 3kg sample for pulverisation and 50g fire assay.



		OL Nesources
Criteria	JORC Code explanation	Commentary
Drilling techniques	Drill type (e.g. core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (e.g. core diameter, triple or standard tube, depth of diamond tails, facesampling bit or other type, whether core is oriented and if so, by what method, etc).	Diamond drilling is completed using either NQ2, HQ, or PQ3 (through the oxide zone) sized coring equipment. All core is orientated (where possible) using a Reflex ACT II RD orientation tool.  RC drilling is carried out using a face sampling hammer with a nominal diameter of 140mm.  Aircore drilling is carried out using a 3 ½ inch blade bit. Where necessary a 3 ½ inch face sampling hammer is employed to penetrate through hard zones.
Drill sample recovery	Method of recording and assessing core and chip sample recoveries and results assessed	Diamond core recoveries is logged and captured in the database. The core length recovered is measured for each run and recorded which is used to calculate the core recovery as a percentage core recovered.  RC and aircore sample recoveries are visually estimated qualitatively on a metre basis and are recorded in the database.
	Measures taken to maximise sample recovery and ensure representative nature of the samples	Measures taken to maximise the core recoveries includes using appropriate core diameter and, where necessary, restricting drill penetration and/or reducing core runs.  Triple tube diamond core through the weathered zone is too broken to allow core cutting and therefore the core is sampled whole to ensure no bias is introduced.  Various drilling additives (including muds and foams) have been used to condition RC and aircore drill holes to maximise recoveries and sample quality. Drill cyclone and sample buckets are cleaned between rod-changes and after each hole to minimise down hole and/or cross-hole contamination.
	Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.	Core drilling has resulted in narrow zones of poor to no core recoveries through the oxide zone in areas of very soft clays and fault gouge within the weathered zones. These are recorded as poor or zero recovery and not assigned grade.  Aircore drilling samples are occasionally wet which may have resulted in sample bias due to preferential loss/gain of fine/coarse material.  No sample recovery issues have impacted on potential sample bias within coring of fresh rock or within RC drilling.
Logging	Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.	Geological logging is completed for all holes to a level of detail that would, where sufficient drill density is completed, support an appropriate Mineral Resource and mining study.  Lithology, alteration, veining, structural and geotechnical (diamond core) characteristics is recorded directly to a digital format and imported into S2 Resources central database.
	Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.	Logging is both qualitative and quantitative in nature depending on the field being captured.  All core is photographed
	The total length and percentage of the relevant intersections logged	All drillholes were logged in full.



Criteria	JORC Code explanation	Commentary
Sub-sampling techniques and sample preparation	If core, whether cut or sawn and whether quarter, half or all core taken.	In zones of highly weathered core where the sample is either highly broken or highly friable the PQ3 or HQ3 core is sampled whole core. Oxide whole core is submitted to the lab in samples not exceeding 6kg and then coarse crushed to <2mm. Samples are then rotary split to provide a 3kg sub sample for pulverisation.  In zones of weakly weathered or fresh rock the HQ or NQ2 core is cut using a diamond core saw with half core sampled for assay.
	If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.	RC and aircore samples consist of a 4 metre composite RC spoils are sampled by scoop. All RC holes are sampled 1 metre samples are collected via an on-board cone splitter. Samples were collected both wet and dry.
	For all sample types, the nature, quality and appropriateness of the sample preparation technique.	The sample preparation follows industry best practice in sample preparation All samples are pulverised utilising Essa LM1, LM2 or LM5 grinding mills determined by the size of the sample. Samples are dried, crushed as required and pulverized to produce a homogenous representative sub-sample for analysis. A grind quality target of 85% passing 75µm has been established and is relative to sample size, type and hardness.
	Quality control procedures adopted for all subsampling stages to maximise representivity of samples.	Quality control procedures include submission of Certified Reference Materials (CRM's), blanks and duplicate samples with each batch of samples. Selected samples are also re-analysed to confirm anomalous results.  Grind size checks are routinely completed to ensure samples meet the industry standard of 85% passing through a 75µm mesh.
	Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second-half sampling.	Field duplicates are taken at regular intervals. Samples are selected to weigh less than 3kg to ensure total preparation at the pulverisation stage.
	Whether sample sizes are appropriate to the grain size of the material being sampled.	Sample sizes are considered appropriate for nickel sulphide and gold mineralisation.
Quality of assay data and laboratory tests		RC and diamond core samples are analysed for Au only using a 40g or 50g Lead Collection fire Assay with either an ICP/MS or AAS finish.
	The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.	4m composite samples from AC drilling are analysed for Au only using a 25g aqua-regia digestion with an ICP/MS finish. The method gives a near total digestion of the regolith intercepted in aircore drilling and is suitable for the reconnaissance style sampling undertaken. Infill 1m samples and samples greater than 1 g/t are re-assayed using 50 g fire-assay with AAS finish which gives total digestion and is more appropriate for samples with high levels of gold.
		All aircore holes (both gold and nickel exploration) have a 1m end-of-hole sample is collected for all AC holes. An extensive multi-element suite (including Ag, Al, As, Ba, Be, Bi, Ca, Cd, Ce, Co, Cr, Cu, Fe, K, La, Mg, Mn, Mo, Na, Ni, P, Pb, Sb, Sc, Sr, Te, Ti, Tl, V, W, Zn) is analysed using a four acid digest with an ICP/OES and ICP/MS finish. Au, Pt And Pd is analysed for using 25g or 50g Lead Collection fire assay with an ICP/MS finish.



Criteria	JORC Code explanation	Commentary
	For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.	No geophysical tools were used to determine any element concentrations used in this resource estimate.
	Nature of quality control procedures adopted (e.g. standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e. lack of bias) and precision have been established.	Sample preparation checks for fineness were carried out by the laboratory as part of their internal procedures to ensure the grind size of 85% passing 75 micron was being attained. Laboratory QAQC involves the use of internal lab standards using certified reference material, blanks, splits and replicates as part of the in house procedures.
Verification of sampling and assaying	The verification of significant intersections by either independent or alternative company personnel.	The Exploration Manager of S2 has visually verified significant intersections.
	The use of twinned holes.	No twin holes have been drilled on the project to date.
	Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.	Primary data was collected using a set of standard Excel templates using lookup codes. The information was sent to an external database consultant for validation and compilation into a Perth based SQL database.
	Discuss any adjustment to assay data.	No adjustments or calibrations were made to any assay data reported.
Location of data points	Accuracy and quality of surveys used to locate drillholes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.	At Baloo all aircore and diamond drilling is picked up by an external surveyor using an RTK GPS system with an expected accuracy is +/- 0.05m for easting, northing and elevation.  RC drill sites were laid out by an external surveyor using an RTK GPS system or tape and compass off surveyed collars. All holes will be picked up by the external surveyor prior to any resource calculations.
	Specification of the grid system used.	The grid system used at Polar Bear is GDA94 (MGA), zone 51.
	Quality and adequacy of topographic control.	A topographic surface has been created from aerial geophysical data, This has been calibrated with DGPS survey data. All reconnaissance drill holes have been corrected to this surface where DGPS pickup is not available.  All resource drilling will be picked up by DGPS to within a +/-50mm accuracy.
Data spacing and distribution	Data spacing for reporting of Exploration Results.	Data spacing is currently defined by the geological criteria regarded appropriate to determine the extents of mineralisation. Reconnaissance AC drilling is on a nominal spacing of between 240m x 40m and 400m x 40m drill pattern, with infill of resource areas closing down to a nominal 40m x 20m drill pattern for AC, RC and diamond.
	Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.	Drilling is currently preliminary in nature had the mineralised domains have not yet demonstrated sufficient continuity in both geological and grade continuity to support the definition of Mineral Resource and Reserves, and the classifications applied under the 2012 JORC Code.
	Whether sample compositing has been applied.	No compositing has been applied to the exploration results.



Criteria	JORC Code explanation	Commentary
Orientation of data in relation to geological structure	Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.	The drilling is not necessarily drilled perpendicular to the orientation of the intersected mineralisation. All reported intervals are downhole intervals and not calculated true width. This will be established with further drilling.  At Baloo the main mineralised structure appears to be dipping moderately to the east and hence 270 azimuth diamond drilling give approximately true width intersections. Supergene dispersion appears relatively flat lying and hence the vertical AC holes also approximate to true thickness.
	If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.	No orientation based sampling bias has been identified in the data at this point.
Sample security	The measures taken to ensure sample security.	Chain of custody is managed by S2 Resources. Samples are stored on site and either delivered by S2 personnel to Perth and then to the assay laboratory, or collected from site by Centurion Transport and delivered direct to the assay laboratory. Whilst in storage, they are kept on a locked yard. Tracking sheets have been set up to track the progress of batches of samples.
Audits or reviews	The results of any audits or reviews of sampling techniques and data.	No audits or reviews have been conducted at this stage.

# **SECTION 2 REPORTING OF EXPLORATION RESULTS**

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.	The Baloo prospect is located within Exploration License <i>E15/1298</i> , which is located within the Polar Bear Project, 100% owned by Polar Metals Pty Ltd, a wholly owned subsidiary of S2 Resources Ltd.  Polar Metals Pty Ltd has lodged a mining lease application (MLA 15/1814) over the Baloo prospect, and is currently in the approval process.  The Baloo prospect is situated within the Ngadju Native Title Claim (WC99/002).
	The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.	The tenement is in good standing and no known impediments exist on tenement actively explored.
Exploration done by other parties	Acknowledgment and appraisal of exploration by other parties.	Gold Exploration Plutonic Operations Limited and Homestake Gold of Australia Limited conducted reconnaissance AC drilling (PBAC prefix) over Lake Cowan on predominantly 100 m drillhole spacing and 800 m line spacing from 1997-1999. Location of these drillholes cannot be verified as the collars are now mostly obscured.  AC sampling was done by 4 m composites with 1 m re-splits on samples greater than 0.1 g/t. Samples were assayed by aquaregia digest with AAS finish although this cannot be verified as the original laboratory.



Criteria	JORC Code explanation	Commentary
Geology	Deposit type, geological setting and style of mineralisation.	The Polar Bear project is situated within the Archaean Norseman-Wiluna Belt which locally includes basalts, komatiites, metasediments, and felsic volcanoclastics.  The primary gold mineralisation is related to hydrothermal activity during multiple deformation events. Indications are that gold mineralisation is focused on or near to the stratigraphic boundary between the Killaloe and Buldania Formation.
Drill hole Information	A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes:  • easting and northing of the drill hole collar  • elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar  • dip and azimuth of the hole  • down hole length and interception depth  • hole length.	Refer to Annexure1 in body of text.
Data aggregation methods	In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g. cutting of high grades) and cut-off grades are usually Material and should be stated.	All reported assays have been length weighted. A top-cut of 30 g/t Au has been applied to individual assays when reported intervals are greater than one metre.  A nominal 0.5 g/t Au lower cut-off is used for RC and diamond intersections (unless otherwise stated). A nominal 0.1 g/t Au lower cut-off is used to report AC intersections.
	Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.	High grade gold intervals internal to broader zones of mineralisation are reported as included intervals.
	The assumptions used for any reporting of metal equivalent values should be clearly stated.	No metal equivalent values are used for reporting exploration results.
Relationship between mineralisation widths and intercept	These relationships are particularly important in the reporting of Exploration Results.  If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should	The trend of mineralisation at <i>Baloo</i> appears broadly north south and dipping moderately to the east with the intervals reported near true width.  All other prospects, the geometry of the primary mineralisation
lengths	be reported.  If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (e.g. 'down hole length, true width not known').	is not known at present due to the lack of deeper drilling and the early stage of exploration.  Refer to Annexure 1 and Figures in body of text.
Diagram	Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.	Refer to Figures in body of text.
Balanced reporting	Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.	The accompanying document is conserved to represent a balanced report with grades and/or widths reported in a consistent manner.



Criteria	JORC Code explanation	Commentary
Other substantive exploration data	Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.	Two vertical PQ3 holes have been drilled in the core of the weathered mineralization to allow bulk density determination and provide samples for metallurgical testwork.  Three geotechnical holes have been drilled in the western portion of the deposit to investigate geotechnical ground conditions in the footwall of a potential open pit.  Groundwater monitoring has been initiated with insertion of PVC into selected holes to allow a first pass pump test.
Further work	The nature and scale of planned further work (e.g. tests for lateral extensions or depth extensions or large-scale step-out drilling).  Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive	At Baloo, further drilling down plunge and along strike within the mineralized zone will follow. More reconnaissance drilling will also be performed along strike to the south at Monsoon

## **SECTION 3 ESTIMATION AND REPORTING OF MINERAL RESOURCES**

Criteria	JORC Code explanation	Commentary
Database integrity	Measures taken to ensure that data has not been corrupted by, for example, transcription or keying errors, between its initial collection and its use for Mineral Resource estimation purposes.	Data templates with lookup tables and fixed formatting are used for logging, spatial and sampling data. Data transfer is electronic via e-mail. Sample numbers are unique and pre-numbered bags are used. These methods all minimise the potential of these types of errors.
	Data validation procedures used.	Data validation checks are run by the database management consultant.
Site visits	Comment on any site visits undertaken by the Competent Person and the outcome of those visits.	Multiple site visits to the Baloo deposit by Andy Thompson during diamond and RC drilling to verify sampling integrity and recovery. Site visit by Andy Thompson and Brian Wolfe acting as Competent Persons, inspected the deposit area, the core logging and sampling facility. During this time, notes and photos were taken along with discussions were held with site personnel regarding the available RC samples and diamond core. No issues were encountered.
	If no site visits have been undertaken indicate why this is the case.	Not applicable
Geological interpretation	Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.	The confidence in the geological interpretation is considered good. The deposit is a mesothermal lode gold style typical of the Kalgoorlie Archaean terrane.
	Nature of the data used and of any assumptions made.	Petrography has been used to assist identification of the rock type subdivisions applied in the interpretation process.
	The effect, if any, of alternative interpretations on Mineral Resource estimation.	The deposit is well constrained and predictable with clear boundaries which define the mineralised domains. Infill drilling has supported and refined the model and the current interpretation is thus considered to be robust.
	The use of geology in guiding and controlling Mineral Resource estimation.	Geological controls and relationships were used to define subdomains. Key features are quartz veining in a deformed lithological contact zone.
	The factors affecting continuity both of grade and geology.	Gold grades are strongly related to deformed quartz veining within a shearzone formed on the contact of basalt, black shale and volcanoclastics



Criteria	JORC Code explanation	Commentary
Dimensions	The extent and variability of the Mineral Resource expressed as length (along strike or otherwise), plan width, and depth below surface to the upper and lower limits of the Mineral Resource	The Mineral Resource area has dimensions of 700 m (north) by 350 m (east) and 250 m (elevation).
Estimation and modelling techniques	The nature and appropriateness of the estimation technique(s) applied and key assumptions, including treatment of extreme grade values, domaining, interpolation parameters and maximum distance of extrapolation from data points. If a computer assisted estimation method was chosen include a description of computer software and parameters used.	The Mineral Resource estimate was generated via MIK and indirect lognormal change of support to emulate mining selectivity. Additionally, areas of mineralization of less certain grade continuity unsuited to grade estimation via MIK have been estimated by ordinary Kriging. Mineralised domain interpretation was completed as described above and approximates a 0.3g/t Au lower cutoff. The interpretation was coded to the drill hole database and 3m length composites were generated within the mineralisation boundary. A series of indicator transforms were applied to the composites as determined by statistical evaluation and indicator semivariograms were modelled for each cut-off. The semivariograms were input in preparation for kriging of the indicator transformed data. Hard boundaries were applied to the kriging. A search neighbourhood was applied parallel to the strike and dip with radii of 50m, 50m and 15m in the strike, down dip and across strike directions respectively. Sample counts for the estimates were set at a minimum of 24 and a maximum of 36. In the case of the domains estimated by OK, an expanded search ellipsoid of 100m x 100m x 30m and a sample count of 6 were applied. Any blocks not estimated in the first estimation pass were estimated in a second pass with expanded search neighbourhoods and relaxed sample limits to allow the domains to be fully estimated. Extrapolation of the drillhole composite data is generally limited to approximately 50m down dip. Change of support via the indirect lognormal method has been applied to the indicator kriging results to emulate selectivity at the mining stage.
	The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.	This is a maiden Mineral Resource for the Baloo deposit and no previous mining activity has taken place in this area.
	The assumptions made regarding recovery of by- products.	No by-products are assumed.
	Estimation of deleterious elements or other non- grade variables of economic significance (e.g. sulphur for acid mine drainage characterisation).	No other elements have been assayed.
	In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.	The parent block size is 20mN x20mE x 10mRL, with sub-celling to 5mE x 5mN x 2.5mRL for domain volume resolution. The parent block size was chosen based on estimation methodology and relates to a drill section spacing of 40m to 20m and an on-section drill spacing of approximately 20m. The search ellipse was oriented with axes rotated parallel to the mineralised bodies as previously described.  Search ellipse dimensions were chosen to encompass several drillholes up and down dip and several lines of drilling along strike
	Any assumptions behind modelling of selective mining units.	Selective mining unit assumptions were based on dimension and spacing of drill sampling, geometry of the mineralisation, likely method of mining (open pit) and equipment used, likely grade control and drill and blast dimensions. In consideration of the parent cell dimension described above, an SMU of SmE x 5mN x 2.5mRL has therefore been applied.
	Any assumptions about correlation between variables.	Not applicable



Criteria	IORC Code evaluation	Commentary
Criteria	JORC Code explanation	Commentary  The realistic model demained the suide transitional and
	Description of how the geological interpretation was used to control the resource estimates.	The geological model domained the oxide, transitional and primary mineralisation to geological and structural zones.  These domains were used as hard boundaries to select sample populations for variography and estimation.
	Discussion of basis for using or not using grade cutting or capping.	Top cutting of grades is not relevant in the context of MIK methodology and has only been considered in the case of the grade variogram used to calculate the change of support variance reduction coefficient. In the case of the OK estimates, grade has been capped to either 15g/t Au or 20g/t Au depending on the domain.
	The process of validation, the checking process used, the comparison of model data to drillhole data, and use of reconciliation data if available.	No mining has taken place; therefore no reconciliation data is available.
Moisture	Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.	The tonnages are estimated on a dry basis.
Cut-off parameters	The basis of the adopted cut-off grade(s) or quality parameters applied	A 0.8g/t Au cut-off grade was used to report the Mineral Resources. This cut-off grade is estimated to be the minimum grade required for economic extraction. A range of additional cut-off grades have been reported up to 1.5g/t Au
Mining factors or assumptions	Assumptions made regarding possible mining methods, minimum mining dimensions and internal (or, if applicable, external) mining dilution. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential mining methods, but the assumptions made regarding mining methods and parameters when estimating Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the mining assumptions made.	Mining of the Baloo deposit will by open cut mining methods. The geometry of the deposit will make it amenable to mining methods currently employed in many gold open pits in the Kalgoorlie district. It is assumed that any pit will be mined on 2.5m benches with grade control drilling density sufficient to allow selectivity assumed in the estimation.
Metallurgical factors or assumptions	The basis for assumptions or predictions regarding metallurgical amenability. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential metallurgical methods, but the assumptions regarding metallurgical treatment processes and parameters made when reporting Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the metallurgical assumptions made.	Preliminary metallurgical testwork in the primary mineralisation indicates that the mineralisation is amenable to standard cyanide leach extraction.
Environmental factors or assumptions	Assumptions made regarding possible waste and process residue disposal options. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider the potential environmental impacts of the mining and processing operation. While at this stage the determination of potential environmental impacts, particularly for a greenfields project, may not always be well advanced, the status of early consideration of these potential environmental impacts should be reported. Where these aspects have not been considered this should be reported with an explanation of the environmental assumptions made	No assumptions have been made and these will form part of the scoping study commencing in April 2016.



Criteria	JORC Code explanation	Commentary
Bulk density	Whether assumed or determined. If assumed, the basis for the assumptions. If determined, the method used, whether wet or dry, the frequency of the measurements, the nature, size and representativeness of the samples.	Dry Bulk Densities were determined by the Archimedes principle (immersion) where possible and also by the direct measurement method (caliper) in the oxide clay. Samples were measured directly from the rig (wet bulk density) and then the samples were dried at Minanalytical to determine moisture content so that Dry Bulk Density (DBD) could be calculated. In total 86 oxide samples, 77 transition zone samples and 282 primary zone samples were collected from mineralized zones.
	The bulk density for bulk material must have been measured by methods that adequately account for void spaces (vugs, porosity, etc), moisture and differences between rock and alteration zones within the deposit,	Bulk density has been estimated from density measurements carried out on PQ3 core samples using the Archimedes method (immersion) of dry weight versus weight in water using clingwrap to waterproof the core. The caliper method was also used in saprolitic oxide clay and showed good correlation with the immersion method.
	Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.	The bulk density values were assigned as an average value to the three weathering domains, oxide, transition and fresh.
Classification	The basis for the classification of the Mineral Resources into varying confidence categories	The Mineral Resource classification is based on good confidence in the geological and grade continuity, along with 20 m by 20 m or 20 x 40m spaced drillhole density.
	Whether appropriate account has been taken of all relevant factors (i.e. relative confidence in tonnage/grade estimations, reliability of input data, confidence in continuity of geology and metal values, quality, quantity and distribution of the data).	The input data is comprehensive in its coverage of the mineralisation and does not favour or misrepresent in-situ mineralisation.  The validation of the block model shows good correlation of the input data to the estimated grades.
	Whether the result appropriately reflects the Competent Person's view of the deposit.	The Mineral Resource estimate appropriately reflects the view of the Competent Persons.
Audits or reviews	The results of any audits or reviews of Mineral Resource estimates.	This is the maiden Baloo deposit Mineral Resource estimate.
	Where appropriate a statement of the relative accuracy and confidence level in the Mineral Resource estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the resource within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors that could affect the relative accuracy and confidence of the estimate	The relative accuracy of the Mineral Resource estimate is reflected in the reporting of the Mineral Resource as per the guidelines of the 2012 JORC Code.
	The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation.  Documentation should include assumptions made and the procedures used	The statement relates to global estimates of tonnes and grade.
	These statements of relative accuracy and confidence of the estimate should be compared with production data, where available	No production data is available.