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# MATILDA RESOURCE ADDS BASE LOAD ORE

- Matilda Mine Resources increases to 12.9Mt @ 1.8g/t for 724,000oz at Matilda Mine (61% measured and indicated).
- DFS mining studies well advanced for the Matilda Mine
- Additional drilling planned to infill and extend M4 Pit Further north and south
- Both M10 starter pit and M4 main pit increase in size

Blackham Resources Ltd (ASX: BLK) ("Blackham") is pleased to announce the latest resource estimate update from the Matilda mining centre. The Matilda Mine resource totals 12.9Mt @ 1.8 g/t for 724,000oz Au with the Measured and Indicated resource now totalling 7.6Mt @ 1.8g/t for 439,000oz Au.

The Matilda Mine which occurs within the highly prospective Coles Shear, is 19km by existing haul road from Blackham's 100% owned Wiluna Gold Plant. The Matilda Mine mineralisation is mainly soft, deeply weathered oxide.

The Matilda Mine is part of the Matilda Gold Project which encompasses a highly prospective 780km<sup>2</sup> tenement package, gold processing plant and associated infrastructure.

DFS mining studies are well advanced on the updated resource at the Matilda Mine. Studies to date on the current resource indicate the shallow mineralisation at Iceberg 2 and Scorchers immediately to the north and south of the M4 Pit influence the optimisations to extend in each direction (see Figure 1). Also recent drilling at M3 and M1 South has pushed these pits wider and deeper. Currently 90% of the inpit resource is in the Measured and Indicated categories giving solid confidence in the resources.

Blackham is currently drilling a 4,500m RC programme at the Matilda Mine to upgrade Inferred lodes to Indicated as identified within the DFS pit optimisation as well as targeting further repeating and stacked lodes along the 7 km's of strike.

Blackham's Managing Director commented "The increase in the Measured and Indicated resources at the Matilda Mine gives us further confidence that the Matilda Mine will keep growing. We continue to find repeat and stacked lodes along the deeply weathered Matilda system. The Matilda Mine is shaping up as an important source of base load free milling ore to re-commission the Wiluna Gold Plant."



Figure 1. M4 long section showing the pit optimisations and the northern and southern extensions to the DFS pit optimisation.

This JORC 2012 compliant resource update is based on over 42,000m of RC and diamond drilling completed by Blackham, as well as extensive historical drilling and past mining information. Mineralised zones were interpreted using 0.5g/t grade envelopes and 2m maximum contiguous internal dilution, constrained within shallow (~30°NNE) plunging lodes within predominantly sheared and altered basalts and minor metasediments.

This conversion of Inferred resources into the Indicated and Measured category is a result of the infill drilling conducted in the key areas of the M1, M3 and M4 mineralised trends. Additional Inferred and Indicated mineralisation is also included from the Iceberg 2 and Scorchers zones along the M4 trend and from M10.

The latest drill programmes successfully extended the M4 optimised pit further north and south. The Iceberg 2 zone has extended the pit further north and it is now starting to interplay with the parallel M2 pit.



Figure 2. Plan view of Matilda M1 to M5 DFS pit optimisations and the northern and southern extensions in comparison to the PFS pit designs.

The Scorchers and Sixers zones are likely to extend the M4 pit designs further south and it is now starting to interplay with the neighbouring M3 and M1 pits. As a result of this drilling the M3 pit is expected to go deeper merging into both the M4 and M1 pits reducing the combined stripping ratio in this area and improving the economics of the Matilda orebodies. As the Matilda pits continue to merge, stripping ratio benefits can be seen across the mine.

		Veasure	ł		ndicated			Inferred			Total	
Туре	Tonnes	Au	Au	Tonnes	Au	Au	Tonnes	Au	Au	Tonnes	Au	Au
	t	g/t	Ounces	t	g/t	Ounces	t	g/t	Ounces	t	g/t	Ounces
Oxide	103,400	1.8	6,000	2,164,100	1.9	130,500	1,094,900	1.5	53,600	3,362,400	1.8	190,100
Transitional	95,800	2.3	7,100	1,959,000	1.8	110,600	898,900	1.4	41,500	2,953,700	1.7	159,200
Fresh	10,400	2.3	800	3,266,200	1.8	184,200	3,277,600	1.8	190,000	6,554,300	1.8	375,000
Total	209,600	2.1	13,900	7,389,300	1.8	425,300	5,271,400	1.7	285,100	12,870,000	1.8	724,000

### Table 1: Total Matilda Mine Resource reported by weathering.

\* M1-M5 and M10 Resource Estimate reported at 0.6g/t cut-off above 900mRL and 2g/t below 900mRL \*\*Remaining resources reported at 0.75g/t ccut-off above 900mRL an 2g/t below 900mRL

The Matilda Mine DFS metallurgical test work has focused on optimising the milling capability of through the 100% owned Wiluna gold plant. The processing route will be crush, grind, gravity, CIL, elution into the gold room. The soft free milling ore is to be initially processed through both Mill 1 and Mill 2 for an average current LOM throughput of 1.7Mtpa.

The Matilda ore which will provide base load open pit feed to the Wiluna Gold Plant, averages DFS metallurgical recoveries of 93% (PFS 88%) after gravity and 18 hours of leaching. This represents a 5% improvement on the PFS test work due to optimisation work resulting in higher cyanide and oxygen levels.



Fig 3: Matilda M10 Resources & Initial DFS optimised pit showing the likely increase in size from the PFS pit.

A new resource has also been completed on the Matilda M10 deposit which now has a total resource of **739,000t @ 1.9g/t for 45,000oz** Au. M10 is a new pit located approximately 1.5km south of M4 pit. Blackham proposes to commence its open pit mining at M10 as it provides shallow, deeply weathered, soft ore with up to 99% metallurgical recoveries.

M10 consists of a mineralised antiformal structure plunging approximately  $25^{\circ}$  to the north-north-west. The western limb dips steeply to the west and has a number of mineralised shear lodes of similar orientation on the hanging-wall. A series of stacked, flat supergene lodes are present on the eastern side of the main anticline.

Drilling to date has mainly focussed on the oxide ore and as such the mineralisation has not been well defined in the very narrow transitional and fresh weathering zones. It appears that the anticline continues to plunges into the fresh rock to the north with this area being a future drilling target.

The Measured portion of the Matilda resource is defined where the drill spacing is predominantly at 10m by 10m and continuity of mineralisation is robust. The Indicated portion of the resource is defined where the drill spacing was predominantly at 25m by 25m and individual lodes include at least 3 drill hole intersections and continuity of mineralisation was strong. The Inferred Resource includes the down depth lode extensions or minor lodes defined by sparse drilling.

### **Gold Resources**

The Matilda Gold Project resource is now **45Mt @3.3g/t for 4.7Moz** all within a 20 kilometre radius of Blackham's 1.3Mtpa Wiluna Gold Plant capable of over 100,000ozpa gold production. Measured and Indicated resources now total **20Mt @ 3.5g/t for 2.3Moz** representing 49% of the total resource.

	*		*	Matilda Go	old Proj	ect Resourc	ce Summary		-	*		
	Μ	leasure	∋d	Ir	ndicate		In	ferred		T	otal 100	%
Mining Centre	Mt	g/t Au	Koz Au	Mt	g/t Au	Koz Au	Mt	g/t Au	Koz Au	Mt	g/t Au	Koz Au
Matilda Mine	0.2	2.1	13	7.4	1.8	426	5.3	1.7	285	12.9	1.8	724
Williamson Mine				2.7	1.7	150	3.6	1.7	200	6.3	1.7	350
Regent				0.7	2.7	61	3.1	2.1	210	3.9	2.2	270
Galaxy				0.4	3.0	38	0.4	2.2	28	0.8	2.6	66
Golden Age				0.4	4.5	62	0.7	3.5	88	1.1	4.4	150
Bulletin South OP				0.8	3.1	80	1.6	3.5	180	2.4	3.3	260
East Lode				1.0	5.2	170	2.3	4.7	340	3.3	4.8	510
West Lode				1.4	5.5	240	2.8	5.2	460	4.2	5.3	700
Henry 5 - Woodley - Bulletin Deeps				2.1	5.9	400	0.8	4.6	120	2.9	5.6	520
Burgundy - Calais				1.3	6.0	250	0.3	5.7	60	1.6	6.0	310
Happy Jack - Creek Shear				1.5	5.9	290	1.3	4.8	200	2.9	5.4	490
Other Wiluna Deposits				0.8	4.3	106	1.5	4.0	195	2.3	4.1	301
Total	0.2	2.1	13	20	3.5	2.273	24	3.1	2.366	45	3.3	4.651

### **Table 2: Matilda Gold Project Resource Summary**

Mineral Resource estimates are not precise calculations, being dependent on the interpretation of limited information on the location shape and continuity of the occurrence and on the available sampling results. The figures in Table 2 above are rounded to two significant figures to reflect the relative uncertainty of the estimate.

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#### Competent Persons Statement

The information contained in the report that relates to all other Mineral Resources is based on information compiled or reviewed by Mr Marcus Osiejak, who is a full-time employee of the Company. Mr Osiejak, is a Member of the Australian Institute of Mining and Metallurgy and has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which is being undertaken 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'. Mr Osiejak has given consent to the inclusion in the report of the matters based on this information in the form and context in which it appears.

#### Forward Looking Statements

This announcement includes certain statements that may be deemed 'forward-looking statements'. All statements that refer to any future production, resources or reserves, exploration results and events or production that Blackham Resources Ltd ('Blackham' or 'the Company') expects to occur are forward-looking statements. Although the Company believes that the expectations in those forward-looking statements are based upon reasonable assumptions, such statements are not a guarantee of future performance and actual results or developments may differ materially from the outcomes. This may be due to several factors, including market prices, exploration and exploitation success, and the continued availability of capital and financing, plus general economic, market or business conditions. Investors are cautioned that any such statements are not guarantees of future performance, and actual results or performance may differ materially from those projected in the forward-looking statements. The Company does not assume any obligation to update or revise its forward-looking statements, whether as a result of new information, future events or otherwise.

# APPENDIX A - JORC Code, 2012 Edition – Table 1

## Section 1 Sampling Techniques and Data

(Criteria in this section apply to all succeeding sections.)

Criteria	JORC Code explanation	Commentary
Sampling techniques	<ul> <li>Nature and quality of sampling (eg cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.</li> <li>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</li> <li>Aspects of the determination of mineralisation that are Material to the Public Report.</li> <li>In cases where 'industry standard' work has been done this would be relatively simple (eg 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (eg submarine nodules) may warrant disclosure of detailed information.</li> </ul>	<ul> <li>Historically (pre-Blackham Resources), RC drill samples were taken at predominantly 1m intervals, or as 2m or 4m composites. Historical core sampling is at various intervals so it appears that sampling was based on geological observations at intervals determined by the logging geologist. Blackham Resources has used reverse circulation drilling to obtain 1m samples from which ~3kg samples were collected using a cone splitter connected to the rig. In places 4m composites were obtained using spear sampling, with mineralised samples to be subsequently re-assayed using the original 1m splits.</li> <li>For Blackham's (BLK) RC drilling, the drill rig (and cone splitter) is always jacked up so that it is level with the earth to ensure even splitting of the sample. It is assumed that previous owners of the project had procedures in place in line with standard industry practice to ensure sample representivity.</li> <li>BLK Diamond drilling was completed to industry standard using varying sample lengths (0.3m to 1.2m) based on geology intervals.</li> <li>BLK's sampling procedures are in line with standard industry practice to ensure sample representivity. Core samples are routinely taken from the right-hand-side of the bottom-of hole cut line. Drill core is measured by tape and compared to downhole core blocks consistent with industry standards.</li> <li>At the laboratory, samples &gt;3kg were 50:50 riffle split to become &lt;3kg. The &lt;3kg splits were pulverized to produce a 50g charge for fire assay. Historical assays were obtained using either aqua regia digest or fire assay, with AAS readings.</li> <li>Blackham Resources analysed samples using Quantum Analytical Services (QAS), ALS laboratories or SGS Laboratories in Perth. Analytical method was Fire Assay with a 50g charge and AAS finish.</li> </ul>
Drilling techniques	• Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg core diameter, triple or standard tube, depth of diamond tails, face- sampling bit or other type, whether core is oriented and if so, by what method, etc).	• BLK DD data reported herein is HQ3 and PQ diameter, and orientated where possible using a Reflex ACT III tool. Downhole surveys are taken every 30m using a Reflex EZ-TRAC tool. Historical drilling data contained in this report includes RC, RAB and DD core samples. RC sampling utilized face-sampling hammer of 4.5" to 5.5" diameter, RAB sampling utilized open-hole blade or hammer sampling, and DD sampling utilized half core samples. It is unknown if core was orientated, though it is not material to this report. All Blackham RC drilling used a face-sampling bit.
Drill sample recovery	• Method of recording and assessing core and chip sample recoveries and results assessed.	• For Blackham DD drilling, drill core recovery is measured by drillers and BLK staff, logged per drill run and stored in a digital database. For BLK RC drilling, chip sample recovery is visually estimated by volume for each 1m bulk sample bag, and recorded digitally in the sample database. For historical

	<ul> <li>Measures taken to maximise sample recovery and ensure representative nature of the samples.</li> <li>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.</li> </ul>	•	drilling, recovery data for drill holes contained in this report has not been located or assessed, owing to incomplete data records. Database compilation is ongoing. For Blackham DD drilling, sample recovery is maximised by using best-practice drilling techniques, such as short drill runs, and split tubes. For depth mark-up and sampling the core is reconstructed in an orientation angle bar to ensure accuracy. Representivity of samples is maximised by routinely sampling half core on the right-hand side of the orientation line, and is checked through analysis of duplicate sampling results. RC drilling, sample recovery is maximized by pulling back the drill hammer and blowing the entire sample through the rod string at the end of each metre. Where composite samples are taken, the sample spear is inserted diagonally through the sample bag from top to bottom to ensure a full cross-section of the sample is collected. To minimize contamination and ensure an even split, the cone splitter is cleaned with compressed air at the end of each rod, and the cyclone is cleaned every 50m and at the end of hole, and more often when wet samples are encountered. Historical practices are not known, though it is assumed similar industry-standard procedures were adopted by each operator. For historical drilling with dry samples it is unknown what methods were used to ensure sample recovery, though it is assumed that industry-standard protocols were used to maximize the representative nature of the samples, including dust-suppression and rod pull-back after each drilled interval. For wet samples, it is noted these were collected in polyweave bags to allow excess water to escape; this is standard practice though can lead to biased loss of sample material into the suspended fine sample fraction. For Blackham drilling, no such relationship was investigated as recovery data is not available.
Logging	<ul> <li>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.</li> <li>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.</li> <li>The total length and percentage of the relevant intersections logged.</li> </ul>	•	Samples have been routinely logged for geology, including lithology, colour, oxidation, veining and mineralisation content. This level of detail is considered appropriate for Mineral Resource estimation. Logging of geology and colour for example are interpretative and qualitative, whereas logging of mineral percentages is quantitative. All core is photographed. Holes were logged entirely. Core photography was taken for BLK diamond drilling.
Sub-sampling techniques and sample preparation	<ul> <li>If core, whether cut or sawn and whether quarter, half or all core taken.</li> <li>If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.</li> <li>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</li> <li>Quality control procedures adopted for all sub-</li> </ul>	•	Sampling techniques and preparation are not known for all the historical drilling. Historical core in storage is generally half core, with some quarter core remaining; it is assumed that half core was routinely analysed, with quarter core perhaps having been used for check assays or other studies. Sawn half core HQ3 or quarter core PQ is routinely analysed by BLK. Mention is made in historical reports of 1m riffle split samples for Chevron RC drilling, and of 1m and 2m or 4m composites for Agincourt drilling. For Blackham drilling, 1m samples were split using a cone splitter. 4m composite samples were collected with a spear tube where mineralisation was not anticipated. Most samples were dry; the moisture content data was logged and digitally captured. Where

	<ul> <li>sampling stages to maximise representivity of samples.</li> <li>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.</li> <li>Whether sample sizes are appropriate to the grain size of the material being sampled.</li> </ul>	•	it proved impossible to maintain dry samples, at most three consecutive wet samples were obtained before drilling was abandoned, as per procedure. RC sampling with riffle or cone splitting and spear compositing is considered standard industry practice. Half-core HQ3 sampling and quarter core PQ are considered standard industry practice for this style of mineralisation. Quarter coring of PQ was selected due to the larger sample volume relative to HQ3, and the desire to retain maximum sample volume for other metallurgical tests. Boyd crushing to -2mm for samples >3kg is completed owing to the coarse nature of gold nuggets, prior to obtaining a <3kg sub-split for pulverisation. For RC sampling, riffle splitting and half-core splitting are industry-standard techniques and considered to be appropriate. Field duplicates were collected every 40m down hole for BLK holes by taking a 50:50 split from the Boyd crusher / splitter. Analysis of results indicated good correlation between primary and duplicate samples. Chevron collected field duplicates at 1:20 ratio for the majority of historical RC drilling; samples showed good repeatability above 5g/t, though sample pairs show notable scatter at lower grades owing to the nugget effect. It is not clear how the historical field duplicates were taken for RC drilling. Sample sizes are considered appropriate for these rock types and style of mineralisation, and are in line with standard industry practice.
Quality of assay data and laboratory tests	<ul> <li>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</li> <li>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.</li> <li>Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.</li> </ul>	•	Fire assay is a total digestion method, whereas Aqua Regia is a partial digestion method. The lower detection limits of 0.01ppm or 0.02ppm Au used at various times are considered fit for purpose. For Blackham drilling, Bureau Veritas, Genalysis, ALS, SGS and QAS completed the analyses using industry best-practice protocols. These are globally-recognized and highly-regarded companies in the industry. No geophysical tools were required as the assays directly measure gold mineralisation. For Blackham drilling, down-hole survey tools were checked for calibration at the start of the drilling program and every two weeks. Comprehensive programs of QAQC have been adopted since the 1980's. BLK drilling: certified reference material and blanks were submitted at a 1:40 ratio. A lab barren quartz flush is requested following predicted high grade (e.g. visible gold). Check samples are routinely submitted to an umpire lab at 1:40 ratio. Analysis of results confirms the accuracy and precision of the assay data. Chevron inserted standards, blanks and field duplicates at 1:20 ratios; the Chevron data relates to the majority of in-pit drilling at Matilda. Results show good correlation between original and repeat analyses with very few samples plotting outside acceptable ranges (+/- 20%). A recognised laboratory has been used for historical analyses (Classic Labs, Analabs, ARM).
Verification of sampling and assaying	<ul> <li>The verification of significant intersections by either independent or alternative company personnel.</li> <li>The use of twinned holes.</li> </ul>	•	BLK's significant intersections are verified by alternative company personnel. For historical results, significant intersections can't be independently verified. However, database validation has been done to ensure the latest assay set appears i.e. where intervals have been sub-split the newest assays are given priority.

	<ul> <li>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</li> <li>Discuss any adjustment to assay data.</li> </ul>	<ul> <li>Some holes in the DD program have been designed to twin historical RC and BLK RC drilling; results broadly match the DD results.</li> <li>Data is stored in Datashed SQL database. Internal Datashed validations and validations upon importing into Micromine were completed, as were checks on data location, logging and assay data completeness and down-hole survey information. QAQC and data validation protocols are contained within Blackham's manual "Blackham Exploration Manual 2015".</li> <li>Conversion of lab non-numeric code to numeric for estimation.</li> </ul>
Location of data points	<ul> <li>Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.</li> <li>Specification of the grid system used.</li> <li>Quality and adequacy of topographic control.</li> </ul>	<ul> <li>Blackham's drill collars are routinely surveyed using a DGPS with centimetre accuracy. All historical dril holes at Matilda appear to have been accurately surveyed.</li> <li>MGA Zone 51 South.</li> <li>Height data (Australian height datum) is collected with DGPS and converted to local relative level using a factor. Prior to DGPS surveys, relative levels are estimated based on data for nearby historical holes.</li> <li>A topographical survey has been flown with 30cm vertical accuracy, which has been used to determine historical pre-Blackham collar RL's.</li> </ul>
Data spacing and distribution	<ul> <li>Data spacing for reporting of Exploration Results.</li> <li>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.</li> <li>Whether sample compositing has been applied.</li> </ul>	<ul> <li>Blackham's exploration holes are generally drilled 25m apart on east-west sections, on sections space 50m apart north-south.</li> <li>Using Blackham's drilling and historical drilling, a spacing of approximately 12.5m (on section) by 20m (along strike) is considered adequate to establish grade and geological continuity. Areas of broader dril spacing have also been modelled but with lower confidence.</li> <li>The mineralisation lodes show sufficient continuity of both geology and grade between holes to suppor the definition of 2012 JORC compliant resources.</li> <li>Samples have been composited only where mineralisation was not anticipated. Where composite samples returned significant gold values, the 1m samples were submitted for analysis and these result were prioritized over the 4m composite values.</li> <li>RC Samples have been collected on 1m lengths. All assay intervals are in multiples of 1m so there are not residual excluded intervals. Diamond Drill core is logged and divided into sample intervals that have a minimum sample length of 0.3m and a maximum sample length of 1.2m. Geological boundaries are typically used to determine intervals. Most sample lengths are at 1m intervals and statistical compositing is not applied until the estimation stage.</li> </ul>
Orientation of data in relation to geological structure	<ul> <li>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</li> <li>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</li> </ul>	<ul> <li>Drill holes were generally orientated towards the west to intersect predominantly steeply east-dipping mineralisation. However, around the historical pits optimal drill sites were not always available, so alternative orientations were used. Thus drill intercepts are not true thicknesses.</li> <li>Such a sampling bias is not considered to be a factor as the RC technique utilizes the entire 1m sample.</li> <li>For Blackham DD sampling, a cut line is routinely drawn at an angle 10 degrees to the right of the orientation line. Where no orientation line can be drawn, where possible samples are cut down the axis of planar features such as veins, such that the two halves of core are mirror images.</li> </ul>

		reported if material.
Sample security	•	<ul> <li>Drill samples are delivered to Toll Ipec freight yard in Wiluna by Blackham personnel, where they are stored in a gated locked yard (after hours) until transported by truck to the laboratory in Perth. In Perth the samples are likewise held in a secure compound.</li> </ul>
Audits or reviews	•	<ul> <li>The results of any audits or reviews of sampling techniques and data.</li> <li>For Blackham drilling, data has been validated in Datashed and upon import into Micromine. QAQC data has been evaluated and found to be satisfactory. Historical assay techniques and data have not been reviewed in detail owing to the preliminary stage of exploration work.</li> <li>Blackham Resources staff have visited the ALS lab and confirmed that the sample handling systems and techniques meet the industry standard.</li> </ul>

# Section 2 Reporting of Exploration Results

(Criteria listed in the preceding section also apply to this section.)

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	<ul> <li>Type, reference name/number, location and </li> <li>ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title </li> <li>interests, historical sites, wilderness or national park and environmental settings.</li> <li>The security of the tenure held at the time of reporting along with any known impediments to obtaining a license to operate in the area.</li> </ul>	The drilling is located wholly within M53/34. The tenement is owned 100% by Kimba Resources Ltd, a wholly owned subsidiary of Blackham Resources Ltd. The tenement sits within the Wiluna Native Title area, and an exploration heritage agreement is in place with the Native Title holders. The tenement is in good standing and no impediments exist.
Exploration done by other parties	<ul> <li>Acknowledgment and appraisal of exploration • by other parties.</li> </ul>	Historical artisanal mining was conducted on the M53/34 tenement and most historical workings have now been incorporated into the modern open pits. Modern exploration has been conducted on the tenement intermittently since the mid-1980's by various parties as tenure changed hands many times. This work has included mapping and rock chip sampling, geophysical surveys and extensive RAB, RC and core drilling for exploration, resource definition and grade control purposes. This exploration is considered to have been successful as it led to the eventual economic exploitation of several open pits during the late 1980's / early 1990's.The deposits remain 'open' in various locations and opportunities remain to find extensions to the known potentially economic mineralisation.
Geology	<ul> <li>Deposit type, geological setting and style of  mineralisation.</li> </ul>	The gold deposits are categorized as orogenic gold deposits, with similarities to most other gold deposits in the Yilgarn region. The deposits are hosted within the Matilda Domain of the Wiluna greenstone belt. Rocks in the Matilda Domain have experienced Amphibolite-grade regional metamorphism. At the location of this drilling, the Matilda Domain is comprised of a fairly monotonous sequence of highly sheared basalts. Gold mineralisation is related to early deformation events, and it appears the lodes

		have also been disrupted by later shearing / faulting on the nearby Erawalla Fault, as well as later cross- faults.
Drill hole Information	<ul> <li>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: <ul> <li>easting and northing of the drill hole collar</li> <li>elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar</li> <li>dip and azimuth of the hole</li> <li>down hole length and interception depth</li> <li>hole length.</li> </ul> </li> <li>If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.</li> </ul>	All Drill hole information is contained within the Access database used to define the resource.
Data aggregation methods	<ul> <li>In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg cutting of high grades) and cut-off grades are usually Material and should be stated.</li> <li>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.</li> <li>The assumptions used for any reporting of metal equivalent values should be clearly stated.</li> </ul>	<ul> <li>Drill hole intercepts are reported as length-weighted averages, above a 0.6g/t cut-off, using a maximum 2m contiguous internal dilution.</li> <li>High-grade internal zones are reported at a 5g/t envelope, e.g. MARC0183 contains 8m @ 5.84g/t from 46m including 1m @ 18.36g/t.</li> <li>No metal equivalent grades are reported because only Au is of economic interest.</li> </ul>
Relationship between mineralisation widths and	<ul> <li>These relationships are particularly important in the reporting of Exploration Results.</li> <li>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</li> </ul>	<ul> <li>Various lode geometries are observed at Matilda, including east-dipping, west-dipping and flat-lying geometries. Generally the lodes strike north-northeast. Historical drilling was oriented vertically or at -60° west, the latter being close to optimal for the predominant steeply-east dipping orientation. Blackham's drill holes are not always drilled at optimal drill angles, i.e. perpendicular to mineralisation, owing to these various geometries, limitations of the rig to drilling &lt;50° angled holes, and difficulty in</li> </ul>

intercept lengths	<ul> <li>If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (eg 'down hole length, true width not known').</li> <li>If it is not known and only the down hole positioning the rig close to remnant mineralisation around open pits.</li> </ul>
Diagrams	<ul> <li>Appropriate maps and sections (with scales)</li> <li>See body of this report.</li> <li>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.</li> </ul>
Balanced reporting	<ul> <li>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.</li> <li>Full reporting of the historical drill hole database of over 40,000 holes is not feasible. A full list of results from the current drilling program is included with the report.</li> <li>Drill hole collars and starting azimuths have been accurately recorded using a handheld GPS and sighting compass. Down hole dip values and azimuths are recorded using a calibrated down-hole camera. Results are accurate to 0.1°.</li> </ul>
Other substantive exploration data	<ul> <li>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.</li> <li>Other exploration tests are not the subject of this report.</li> </ul>
Further work	<ul> <li>The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).</li> <li>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</li> <li>Follow-up resource definition drilling is likely, as mineralisation is interpreted to remain open in various directions.</li> <li>Diagrams are provided in the body of this report.</li> </ul>

Section 3 Estimation and Reporting of Mineral Resources

(Criteria listed in section 1, and where relevant in section 2, also apply to this section.)

Criteria JORC Code explanation Commentary
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Database integrity	<ul> <li>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.</li> <li>Data validation procedures used.</li> </ul>	<ul> <li>Data is validated upon upload into the Datashed database such that only codes within the various code libraries are accepted. Assay data is loaded from digital files.</li> <li>Data is subsequently validated using Datashed validation macros, and then in Micromine and Surpac using validation macros. Data is checked for holes that are missing data, intervals that are missing data, missing intervals, overlapping intervals, data beyond end-of-hole, holes missing collar co-ordinates, and holes with duplicate collar co-ordinates.</li> </ul>
Site visits	<ul> <li>Comment on any site visits undertaken by the Competent Person and the outcome of those visits.</li> <li>If no site visits have been undertaken indicate why this is the case.</li> </ul>	• The site has been visited by the Competent Person, and no problems were identified.
Geological interpretation	<ul> <li>Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.</li> <li>Nature of the data used and of any assumptions made.</li> <li>The effect, if any, of alternative interpretations on Mineral Resource estimation.</li> <li>The use of geology in guiding and controlling Mineral Resource estimation.</li> <li>The factors affecting continuity both of grade and geology.</li> </ul>	<ul> <li>The deposit has previously been mined, which has confirmed the geological interpretation.</li> <li>Geological data used includes lithology, mineral percentages (such as quartz veining and sulphides) to identify lode positions, and weathering codes and rock colour to model the weathering domains. Gold mineralisation is known to relate to quartz and sulphide content. Weathering codes are assumed to have been logged consistently by various geologists, though it is likely that some of the variations between drill holes are due to different logging styles or interpretations.</li> <li>A high degree of confidence is placed on the geological model, owing to the tight drill spacing. Any alternative model interpretations are unlikely to have a significant impact on the resource classification.</li> <li>At Matilda, the host rocks are a fairly monotonous sequence of basalts, thus geology is not the primary control on the location of mineralisation. Mineral percentages (such as quartz veining and sulphides) are used as a proxy for interpreting lode positions, as are weathering codes to model the weathering domains.</li> <li>Significant mineralisation is hosted within moderately north-plunging shoots, which may represent boudinaged older tabular lodes. Thus lodes are continuous down-plunge, with lesser up-dip continuity.</li> </ul>
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 Matilda deposit is comprised of a number of domains; M1, M2, M3, M4, M5, M8, M10 and Coles Find. These combined zones extend almost 5km along a strike of 330° and cover a width of approximately 1km. The deepest vertical interval is 395m at the M1 prospect.
Estimation and modeling techniques	<ul> <li>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</li> </ul>	<ul> <li>The sample domains were flagged into an Access database from a validated wireframe.</li> <li>Only Reverse Circulation (RC) and Diamond Drilling were used in the estimate.</li> <li>A composites string-file was then created in Surpac with a 1.0 m composite length and a minimum percentage of sample to include at 30%.</li> <li>Gold grades were estimated into the model by ordinary kriging using the block model field coding to</li> </ul>

<ul> <li>was chosen include a description of computer software and parameters used.</li> <li>The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.</li> <li>The assumptions made regarding recovery of by-products.</li> <li>Estimation of deleterious elements or other non-grade variables of economic significance (eg sulphur for acid mine drainage characterisation).</li> <li>In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.</li> <li>Any assumptions about correlation between variables.</li> <li>Description of how the geological interpretation was used to control the resource estimates.</li> <li>Discussion of basis for using or not using grade cutting or capping.</li> <li>The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.</li> </ul>	<ul> <li>constrain the estimate.</li> <li>Soft boundaries was utilised between the oxidation surfaces. The majority of the deposit is currently situated within oxide.</li> <li>Only samples contained within each individual ore wireframe were used for the estimate of that lode.</li> <li>Incomplete historical production figures are available at a couple of the Matilda prospects. Blackham did not reconcile the current in-pit resource to the historical figures as not all grade control data was available, and the current interpretations may not match the mined lodes.</li> <li>The production figures at the time mining operations were halted are not known. This estimation is comparable to that completed by Runge in 2013/14 and any significant differences have been accounted for through depletions, change in interpretation and additional drilling information.</li> <li>Blackham has not made assumptions regarding recovery of by-products from the mining and processing of the Matilda Au resource.</li> <li>No estimation of deleterious elements was carried out. Only Au was interpolated into the block model.</li> <li>The parent block dimensions used were 10m NS by 2.5m EW by 5m vertical with sub-cells of 2.5m by 0.625m by 1.25m. The parent block size was selected on the basis of being approximately 50% of the average drill hole spacing immediately below the existing pits.</li> <li>No assumptions were made on selective mining units.</li> <li>Only Au assay data was available, therefore correlation analysis was not carried out.</li> <li>The deposit mineralisation was constrained by wireframes constructed using a 0.5g/t Au cut-off grade. A minimum intercept of 2m was required with a maximum of 2m of internal dilution. The wireframes were applied as hard boundaries in the estimate.</li> <li>The search ellipse was based on the ranges of continuity observed in the variograms along with considerations of the drillhole spacing and lode geometry. The search ellipse was rotated to best reflect the lode geometry and the geology as seen in</li></ul>
	<ul> <li>pass incorporated a different set of sample selection criteria to ensure blocks were filled with an appropriate level of statistical confidence. A final pass of 120m was used to fill remaining blocks.</li> <li>The relatively short search ranges for the first pass were applied in an attempt to limit grade smoothing within the very close (less than 20m) spaced drill holes.</li> <li>Topcuts were determined from the aforementioned statistical analysis. A number of factors were taken into consideration when determining the top-cuts including:</li> </ul>
	<ul> <li>The disintegration point of the data on the probability plots;</li> </ul>

- Having a coefficient of variance (CV) under 2.0; and 0
- Reviewing the model (block) grades against the composites. 0
- The estimate was validated using a number of techniques including but not limited to:

- A visual comparison of block grade estimates and the drill hole data;
- A comparison of the composite and estimated block grades; 0

	•	<ul> <li>Use of SWATH plots.</li> <li>A comparison of the estimated block grades for ordinary kriged models using different cut-off grades for the composites.</li> </ul>
Moisture	• Whether the tonnages are estimated on a dry • basis or with natural moisture, and the method of determination of the moisture content.	Tonnages and grades were estimated on a dry in situ basis. No moisture values were reviewed.
Cut-off parameters	<ul> <li>The basis of the adopted cut-off grade(s) or quality parameters applied.</li> </ul>	The nominal cut-off grade of 0.5g/t appears to be a natural cut-off between mineralised veins and host rock as determined from analysis of log probability plots of all samples at each prospect. This cut-off was used to define the mineralised wireframes. The Mineral Resource has been reported at a 0.6g/t Au cut-off above the 900mRL (which occurs on average at a depth of 200m below the topographic surface) and at a 2g/t cut-off below the 900mRL for M1, M2, M3, M4, M5 and M10. M6, M8 and Coles Find were reported at a 0.75g/t cut-off above the 900mRL as the estimation for these areas have remained unchanged. These values are based on BLK assumptions about economic cut-off grades for open pit and underground mining. BLK has access to previous mining reports from across all prospects at the Matilda deposit.
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.	Blackham believes that a significant portion of the Matilda Deposit defined Mineral Resource has reasonable prospects for eventual economic extraction by medium to large-scale open pit mining methods, taking into account current mining costs and metal prices and allowing for potential economic variations. Historical economic mining of similar deposits has occurred in the area.
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	The deposit has previously been mined and successfully processed for gold extraction. Blackham's DFS metallurgical testwork has shown the resource could be economically treated using standard gravity concentration / carbon-in-leach cyanidation technology. An average recovery of 93% is expected across the oxide+transitional+fresh material.

	explanation of the basis of the metallurgical assumptions made.
Environmental factors or assumptions	<ul> <li>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.</li> <li>Blackham Resources has submitted a detailed Mine Closure Plan to the Department of Mines and Petroleum. This document will be finalized during the project feasibility stage.</li> <li>No environmental, permitting, legal, taxation, socio-economic, marketing or other relevant issues are known, that may affect the estimate.</li> <li>No environmental, permitting, legal, taxation, socio-economic, marketing or other relevant issues are known, that may affect the estimate.</li> <li>No environmental, permitting, legal, taxation, socio-economic, marketing or other relevant issues are known, that may affect the estimate.</li> <li>No environmental impacts should be reported.</li> </ul>
Bulk density	<ul> <li>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.</li> <li>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.</li> <li>Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.</li> </ul>
Classification	<ul> <li>The basis for the classification of the Mineral Resources into varying confidence categories.</li> <li>Whether appropriate account has been taken of all relevant factors (ie 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).</li> <li>A range of criteria were considered when addressing the suitability of the classification boundaries to the resource estimate.</li> <li>Geological continuity and volume models;</li> <li>Drill spacing and available mining information;</li> <li>Modelling technique</li> <li>Estimation properties including search strategy, number of informing composites, average distance of composites from blocks, number of drillholes used and kriging quality parameters to distance of the resource was defined where the drill spacing was predominantly</li> </ul>

		•	Whether the result appropriately reflects the Competent Person's view of the deposit.	at 10m by 10m immediately below the existing pits, and continuity of mineralisation was robust. The Indicated portion of the resource was defined where the drill spacing was predominantly at 25m by 25m and in some areas up to 40m by 40m, and continuity of mineralisation was strong. The Inferred Resource included the down depth lode extensions or minor lodes defined by sparse drilling. Historical documents (including annual reports) provide detailed information on drilling and mining at the various prospects. A large proportion of the digital input data has been transcribed from historical written logs and validation checks have confirmed the accuracy of this transcription. The input data is comprehensive in its coverage of the mineralisation and does not favour or misrepresent in-situ mineralisation. The continuity of geology is well understood as existing pits and historical mining reports provide substantial information on mineralisation controls and lode geometry. Recent BLK infill drilling has supported the interpretations. Validation of the block model shows good correlation of the input data to the estimated grades. The Mineral Resource estimate appropriately reflects the view of the Competent Person.
Audits reviews	or	•	The results of any audits or reviews of Mineral • Resource estimates.	External audits have been completed and a comparison has been made with the previous resource estimate completed by RPM.
Discussion relative accuracy/ confidence	of	•	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 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. These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.	This resource estimate is considered appropriate for a definitive study into the mining of the Galaxy deposit and reports global estimates. The lode geometry has been verified through direct observation of existing open pit walls and from historical mining reports. Current targeted drilling has confirmed the down dip extensions of the main lodes across the deposit. BLK has a good understanding of the geology and mineralisation controls gained through study of all historical mining data. The Mineral Resource statement relates to global estimates of tonnes and grade. The deposit is not currently being mined. Historical production figures supplied to Blackham relate to individual prospects at various stages of the mine life and no final production figures were available. Reconciliation of the current Mineral resource with historical production is not possible.