

ASX Announcement 23 January 2017

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Resource success supports increase in processing capacity

Blackham Resources Ltd (ASX: BLK) ("Blackham") is pleased to provide a revised Mineral Resource estimate for an expanded Matilda/Wiluna Gold Operation. This is the second resource announcement associated with the Stage 2 expansion study aimed at growing production beyond 200,000ozpa and includes new open pit Mineral Resource estimates at the Happy Jack – Bulletin and Adelaide – Moonlight areas.

- Wiluna exploration success and resource upgrades point to additional
 1.5Mtpa crushing and grinding circuit to process Wiluna ores
- Mining and processing studies point to +3Mtpa @ ~ 3g/t Au total processing capacity across the Matilda/Wiluna Operation.
- Combined Matilda/Wiluna Measured, Indicated and Inferred Mineral Resources have grown to 63Mt @ 3.2g/t for 6.4Moz (49% indicated)
- 25% total resource increase since the last quarter
- Open pit resources now 37Mt @ 2.1g/t for 2.4Moz including:
 - Initial open pit Mineral Resource estimate for Happy Jack Creek
 Shear Bulletin area of 2.9Mt @ 2.75g/t for 250koz (94% indicated)
 - Initial open pit Mineral Resource estimate for Adelaide Moonlight area of 0.7Mt @ 3.14g/t for 67koz (52% indicated)
- Underground resources stand at 26Mt @ 4.8g/t for 4.0Moz
- Growth in the open pit resources is likely to underpin the base load feed and growth in the underground resources will provide important grade profile for Wiluna processing plant

Mineral Resources at the Matilda/Wiluna Operation have grown to 6.4Moz (63Mt @ 3.2g/t) with 31Mt @ 3.1g/t Au for 3.1Moz sitting in the Measured and Indicated categories. Consequently, Blackham is advancing its mining and processing studies to increase the processing capacity to more efficiently develop the large resource base and bring better value to its shareholders.

A draft report has been received from Orway Mineral Consultants (OMC) on a recommended processing flowsheet for an additional 1.5Mtpa in new crushing, grinding and flotation circuit to feed the existing BIOX plant. The commissioning of this additional capacity in addition to the recently refurbished 1.7Mtpa oxide circuit would see total capacity of ~3.2Mtpa across the oxide and sulphide circuits, all located at the Wiluna processing hub. The expanded Wiluna plant would bring significant economies of scale to the combined project with all the resources sitting within a 20km radius of the processing plant.

Current mine planning is focused on the planned 1.5Mtpa sulphide circuit being fed equally from both the open pits and the underground. The Wiluna underground would have 2 of the existing 5 declines in operation at any point in time.

Wiluna Resource Update

Following successful drilling campaigns, Measured, Indicated and Inferred Resource estimates have been updated at the Wiluna Gold Project. Mineral Resources at Wiluna have previously been estimated with a focus on high grade underground mining opportunities using a 4.0g/t lowercut. However, significant lower mineralisation grade which potentially can be extracted from an open pit was not captured by the previous interpretation. A new model geological has been completed incorporating recent drilling by Blackham with the mineralisation re-interpreted above a 0.3g/t lower-cut. model is the basis for an updated Mineral Resource estimate with potentially open pit-able material reported within an A\$1,800/oz optimised resource pit shell.

Mineral Resources have now been updated for the Happy Jack – Creek Shear - Bulletin and the Adelaide -Moonlight - Lone Hand group of deposits (Figure 1). Mineral Resources for the East and West Lodes were reported in December (ASX release 13th December 2016). Total resources at Matilda and Wiluna incorporating all the recent updates are now 63Mt @ 3.2g/t for 6.4Moz up from 58Mt @ 3.2g/t for 6.0Moz Au (ASX release 13th December 2016). All resources are within a 20km radius of the Wiluna Gold Plant.

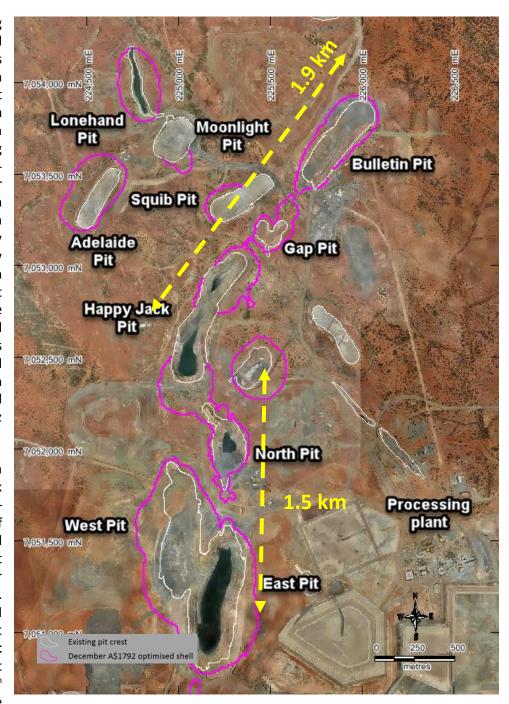


Figure 1 Location of open pits showing A\$1800/oz pit optimisation pit crests

A breakdown of resources is given below in Table 1.

Table 1 Wiluna/Matilda Operations Jan 2017 Measured, Indicated & Inferred Resources (JORC 2012)

				Matilda	Gold Pro	ject Re	source	Summai	ry						
					OPEN F	IT RESO	URCES								
		Measured		ı	ndicated			Inferred		To	otal 100)%	Fr	ee Millin	ıg
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	Mt	g/t Au	Koz Au
Matilda Mine OP	0.2	2.1	13	7.6	1.8	435	4.3	1.4	200	12.1	1.7	648	12.0	1.7	640
Galaxy				0.4	3.1	42	0.4	2.2	25	0.8	2.6	68	8.0	2.7	68
Williamson Mine				3.3	1.6	170	3.8	1.6	190	7.1	1.6	360	7.1	1.6	360
Wiluna OP ¹				8.4	2.7	730	4.1	2.5	330	12.5	2.6	1,060	1.2	1.4	54
Regent				0.7	2.7	61	3.1	2.1	210	3.8	2.2	271	1.3	1.9	78
Stockpiles				0.4	1.0	13				0.4	1.0	13			
OP Total	0.2	2.1	13	21	2.2	1,451	16	1.9	955	37	2.1	2,420	22	1.7	1,200
				ι	JNDERGRO	OUND R	ESOUR	CES							
		Measured		ı	ndicated			Inferred		To	otal 100)%	Fr	ee Millin	ıg
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	Mt	g/t Au	Koz Au
Golden Age				0.5	5.3	81	0.9	3.7	110	1.4	4.2	191	1.4	4.3	190
Wiluna				9.4	5.2	1570	15.0	4.4	2165	24	4.8	3,735			
Matilda Mine UG				0.1	2.5	10	0.6	3.6	70	0.7	3.6	80			
UG Total				10	5.2	1,661	17	4.4	2,345	26	4.8	4,006	1	4.2	190
Grand Total	0.2	2.1	13	31	3.1	3.112	32	3.2	3.300	63	3.2	6.426	24	1.8	1.390

¹⁾ Wiluna Open Pit Resources include the East, West, Happy Jack, Creek Shear, Golden Age North, Gap, Bulletin, Essex, Adelaide and Moonlight orebodies reported from inside an A\$1,800oz optimised resource shell.

Happy Jack – Bulletin Resource suggests a 1.9km long pit

A new open pit resource model has been completed for the Happy Jack, Creek Shear, Gap and Bulletin and Lodes based on historic and recent drilling. Total Indicated and Inferred (JORC 2012) open pit resources for these lodes within an A\$1800/oz shell comprise 2.85Mt @ 2.75g/t for 250,000oz (Table 2). Underground resources have been modelled using a 4.0g/t lower cut and reported above a 2.0g/t cut-off outside the A\$1800/oz shell.

Table 2 Indicated and Inferred Resources (JORC 2012) for the Happy Jack, Creek Shear and Bulletin Lodes

		Indicated		Inferred			Total		
	Mt	g/t Au	Koz Au	Mt	g/t Au	Koz Au	Mt	g/t Au	Koz Au
Happy Jack - Squib - Gap - Bulletin - OP ¹	2.6	2.83	240	0.2	1.91	10	2.9	2.75	250
Happy Jack - Squib - Gap - Bulletin - UG ²	2.9	4.61	430	3.8	4.47	550	6.7	4.53	980
Total	5.5	3.76	670	4.0	4.31	560	9.6	3.99	1,230

¹⁾ Open pit cut off grades: 0.5g/t for oxide and a 1.0g/t lower cut for transitional and fresh.

The results of the pit optimisation have identified several areas where drilling is limited and additional drilling has the potential to increase resources further, especially at the Happy Jack deposit and between the Gap and Bulletin pits. At Happy Jack, reinterpretation of historical data identified a previously unrecognised northwest striking mineralised structure at the northern end of the Happy Jack pit (Figure 2). Previous drilling in this area was oriented towards the east and as a result most holes have not yet fully tested the obliquestructure (Figure 3)

²⁾ Free Milling resource is a subset of the overall Mineral Resource

³⁾ Mineral Resources are reported inclusive of Ore Reserves and include all exploration and resource definition drilling information, where practicable, up to 1st December 2016.

⁴⁾ 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 the above table are rounded to two significant figures to reflect the relative uncertainty of the estimate.

⁵⁾ Cut off grades used in the estimations vary between deposits and are given in the individual Mineral Resource tables and Table 1

²⁾ Underground resources are reported above 2.0g/t

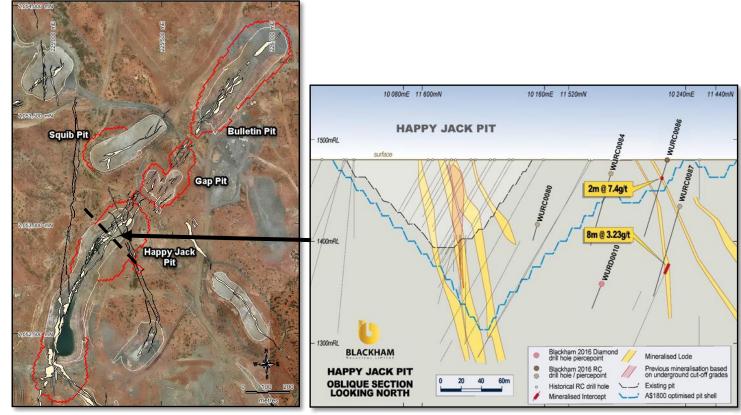


Figure 2 Plan view showing A\$1800/oz pit optimisations for Happy Jack, Squib, Gap and Bulletin pits with mineralised lodes.

Figure 3 Oblique cross section through Happy Jack.

Adelaide - Moonlight - Lone Hand Lodes

A new open pit resource model has been completed for the Adelaide, Moonlight and Lone Hand deposits based on historic and recent drilling. Total Indicated and Inferred (JORC 2012) open pit resources for these lodes within an A\$1800/oz shell comprise 0.7Mt @ 3.14g/t for 70,000oz (Table 3). Pit crests for the A\$1800/oz shells are shown in Figure 4.

Table 3 Indicated and Inferred Resources (JORC 2012) for the Happy Jack, Creek Shear and Bulletin Lodes

		Indicated			Inferred			Total		
	Mt	g/t Au	Koz Au	Mt	g/t Au	Koz Au	Mt	g/t Au	Koz Au	
Adelaide – Moonlight – Lone Hand Open Pit¹	0.4	2.89	40	0.3	3.47	30	0.7	3.14	70	
Adelaide – Moonlight – Lone Hand UG²	0.1	2.59	10	3.4	3.92	420	3.5	3.87	430	
Total	0.5	2.82	50	3.6	3.85	450	4.1	3.76	500	

¹⁾ Open pit cut off grades: 0.5g/t for oxide and a 1.0g/t lower cut for transitional and fresh.

²⁾ Underground resources are reported above 2.0g/t

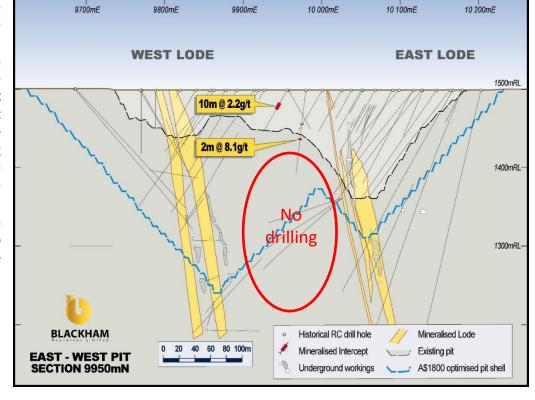


Figure 4 Mineralised lodes and crests (red) of the A\$1800/oz Pit optimisations for the Adelaide, Moonlight and Lone Hand pit cut-backs

East - West Lodes

Mineral Resources for the East and West Lodes were updated in December 2016. However, mineralisation intersected in between the East and West Lodes has not been included in the current geological model due to the sparse nature of the drilling and the uncertainty of the orientation of the mineralised structures. Mineralisation remains open down dip and along strike to the north and south. (Figure 5).

Figure 5 Cross section 9950mN through the East and West lodes.



Wiluna Gold Deposit Summary

The Wiluna and Matilda gold deposits are located within the Wiluna Goldfield, close to the town of Wiluna at latitude 26º38'S, longitude 120º15'E on the Wiluna (SG 51-9)1:250 000 scale map. Perth, the nearest capital city, lies 750km to the southeast. The closest regional centres are Kalgoorlie, 540km to the south and Meekatharra, 183km to the west.

The gold deposits are categorised as orogenic gold deposits, with similarities to many other gold deposits in the Yilgarn region. The deposits are hosted within the Wiluna Domain of the Wiluna Greenstone Belt. Rocks in the Wiluna Domain have experienced greenschist-facies regional metamorphism and brittle deformation. The Wiluna Domain is comprised of a fairly monotonous sequence of foliated basalts and high-magnesium basalts, with intercalated felsic intrusions, lamprophyre dykes, metasediments, and dolerites.

Wiluna ores are typically oxide, refractory or free milling quartz mineralisation. The refractory ore has most gold occurring in either solid solution or as sub-microscopic particles within fine-grained sulphides. Mineralisation at Wiluna is principally controlled by the shear zones which have variable strike and dip orientations and typically flex along strike and down dip. These flexures in conjunction with favourable host rock composition act to form the best ore zones.

The Bulletin/Happy Jack refractory ore has gold predominantly occurring in either solid solution or as submicroscopic particles within fine-grained sulphides. Mineralisation within the Bulletin deposit is principally controlled by the Happy Jack-Bulletin fault zone (BFZ), one of the major structures within the Wiluna Fault system. The BFZ is a 50m wide zone of brittle to brittle-ductile deformation which trends at 045° and dips steeply to the east at 80°. Fault planes within the Wiluna field typically flex along strike and down dip, and these flexures or rolls produce sites of dilatancy. These flexures in conjunction with favourable host rock composition act to form the best ore zones. Mineralisation for the Bulletin deposit is open at depth and plunges to the south.

Gold mineralisation at the Moonlight Shear Deposit is hosted in multiple shear zones with moderate to steep dips. Mineralisation varies in width and is thickest at the intersection between the major north-east trending shear and several north trending structures in the area. These intersections are thought to represent zones of large scale brecciation and dilatancy in the footwall associated with the major shear's dextral movement. Moonlight has also been mined underground historically to a depth of 350m below surface.

The interpretation of the mineralisation was carried out using a methodical approach to ensure continuity of the geology using Surpac software. For the open pit resource a lower cut-off grade of 0.5g/t was used and the high grade underground mineralisation was reported above a 2g/t lower cut.

All available geological data was used in the interpretation including mapping, drilling, oxidation surfaces and interpretations of high grade ore shoots. Only diamond and reverse circulation drilling samples were used in the final estimate however all available grade control data was used in the geological assessment.

A range of criteria were considered when addressing the suitability of the classification boundaries to the resource estimate.

- Geological continuity and volume models;
- Drill spacing and available mining information;
- Modelling technique
- Estimation properties including search strategy, number of informing composites, average distance of composites from blocks, number of drill holes used and kriging quality parameters.

The classification for this model was predominantly based on the estimation pass. With the first pass relating to an indicated resource and the second pass being inferred. The classification of the blocks was also visually checked and adjusted to remove any "spotted dog" effects. No measured resources were calculated. Estimated blocks that have been informed by predominantly historical drilling where QA/QC data has not been reviewed were assigned as inferred.

Blackham's Managing Director, Bryan Dixon, said

"The latest Wiluna resource upgrade is likely to add significant base load open pit and high grade underground feed for the Wiluna expansion study. Mining studies are aimed at feeding half the planned 1.5Mtpa additional throughput from the open pits and half from the underground. These resource upgrades over the last 5 weeks give us confidence that we can expand the combined operation of 3Mtpa @ 3g/t with a long mine life."

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Competent Persons Statement

The information contained in the report that relates to Exploration Targets and Exploration Results at the Matilda Gold Project is based on information compiled or reviewed by Mr Bruce Kendall, who is a full-time employee of the Company. Mr Kendall is a Member of the Australian Institute of Geoscientists 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 Kendall 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.

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.

With regard to the Matilda Gold Project Mineral Resources, the Company is not aware of any new information or data that materially affects the information included in this report and that all material assumptions and parameters underpinning Mineral Resource Estimates as reported in the market announcements dated 13 December 2016 continue to apply and have not materially changed.

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.

JORC Code, 2012 Edition – Compliance

JORC Code, 2012 Edition – Table 1 (Wiluna)

Section 1 Sampling Techniques and Data

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

Criteria	JORC Code explanation	Commentary
Sampling techniques	 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. Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used. 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 (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 	 Blackham Resources has used i) reverse circulation drilling to obtain 1m samples from which "3kg samples were collected using a cone splitter connected to the rig, and ii) NQ2 or HQ core with ½ core sampling. Samples from RC and diamond drilling are reported herein. Blackham'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 cut line. For Blackham's RC and AC 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. Historically (pre-Blackham Resources), drill samples were taken at predominantly 1m intervals in RC holes, or as 2m or 4m composites in AC holes. Historical core sampling is at various intervals so it appears that sampling was based on geological observations at intervals determined by the logging geologist. At the laboratory, samples >3kg were 50:50 riffle split to become <3kg. The <3kg splits were crushed to <2mm in a Boyd crusher and pulverized via LM5 to 90% passing 75µm to produce a 50g charge for fire assay. Historical assays were obtained using either aqua regia digest or fire assay, with AAS readings. Blackham Resources analysed samples using ALS laboratories in Perth. Analytical method was Fire Assay with a 50g charge and AAS finish. Historically, gold analyses were obtained using industry standard methods; split samples were pulverized in an LM5 bowl to produce a 50g charge for assay by Fire Assay or Aqua Regia with AAS finish at the Wiluna Mine site laboratory.

Drilling techniques	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. • Drill type (eg core, reverse circulation, open-hole	 Blackham data reported herein is RC 5.5" diameter holes. Diamond drilling is oriented NQ or HQ core Historical drilling data contained in this report includes RC, AC and DD core samples. RC sampling utilized face-
4	hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg 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).	sampling hammer of 4.5" to 5.5" diameter, RAB sampling utilized open-hole blade or hammer sampling, and DD sampling utilized NQ2 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. Measures taken to maximise sample recovery and ensure representative nature of the samples. 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. 	 For Blackham RC drilling, chip sample recovery is visually estimated by volume for each 1m bulk sample bag, and recorded digitally in the sample database. For DD drilling, recovery is measured by the drillers and Blackham geotechnicians and recorded into the digital database. Recoveries were typically 100% except for the non-mineralised upper 3 or 4m. For historical 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. 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 DD drilling, sample recovery is maximised by the use of short drill runs (typically 1.5m) and triple tube splits for HQ3 drilling. For Blackham drilling, no such relationship was evaluated as sample recoveries were generally excellent.
Logging	Whether core and chip samples have been	• Drill samples have been logged for geology, alteration, mineralisation, weathering, geotechnical properties and other features to a level of detail considered appropriate for geological and resource modelling.

geologically and geotechnically logged to a level of
detail to support appropriate Mineral Resource
estimation, mining studies and metallurgical
studies.

- Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.
- The total length and percentage of the relevant intersections logged.

- Logging of geology and colour for example are interpretative and qualitative, whereas logging of mineral percentages is quantitative.
- All holes were logged in full.
- Core photography was taken for BLK diamond drilling.

Sub-sampling techniques and sample preparation

- If core, whether cut or sawn and whether quarter, half or all core taken.
- If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.
- For all sample types, the nature, quality and appropriateness of the sample preparation technique.
- Quality control procedures adopted for all subsampling stages to maximise representivity of samples.
- 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.
- Whether sample sizes are appropriate to the grain size of the material being sampled.

- For core samples, Blackham uses half core cut with an automatic core saw. Samples have a minimum sample width of 0.3m and maximum of 1.2m, though typically 1m intervals were selected. A 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.
- For historical drilling sampling techniques and preparation are not known. 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. Holes have been selectively sampled (visibly barren zones not sampled, though some quartz vein intervals have been left un-sampled), with a minimum sample width of 0.3m and maximum of 1.2m, though typically 1m intervals were selected.
- RC sampling with cone splitting with 1m samples collected. 4m scoop composites compiled from individual 1m samples. RC sampling with riffle or cone splitting and spear compositing is considered standard industry practice.
- For historical samples the method of splitting the RC samples is not known. However, there is no evidence of bias in the results
- Blackham drilling, 1m RC samples were split using a cone splitter. Most samples were dry; the moisture content
 data was logged and digitally captured. Where it proved impossible to maintain dry samples, at most three
 consecutive wet samples were obtained before drilling was abandoned, as per procedure. AC samples were 4m
 composites;
- Boyd <2mm crushing and splitting is considered to be standard industry practice; each sample particle has an
 equal chance of entering the split chute. At the laboratory, >3kg samples are split so they can fit into a LM5
 pulveriser bowl. At the laboratory, >3kg samples are split 50:50 using a riffle splitter so they can fit into a LM5
 pulveriser bowl.
- Field duplicates were collected approximately every 40m down hole for Blackham holes. With a minimum of one
 duplicate sample per hole. Analysis of results indicated good correlation between primary and duplicate samples.
 RC duplicates are taken using the secondary sample chute on the cone splitter. AC duplicates were scooped in

Quality of	• The nature, quality and appropriateness of the	 the field. It is not clear how the historical field duplicates were taken for RC drilling. Riffle splitting and half-core splitting are industry-standard techniques and considered to be appropriate. Note comments above about samples through 'stope' intervals; these samples don't represent the pre-mined grade in localized areas. For historical drilling, field duplicates, blank samples and certified reference standards were collected and inserted from at least the early 2000's. Investigation revealed sufficient quality control performance. No field duplicate data has been located or evaluated in earlier drilling. Field duplicates were collected every 20m down hole for Blackham holes. Analysis of results indicated good correlation between primary and duplicate samples. Sample sizes are considered appropriate for these rock types and style of mineralisation, and are in line with standard industry practice. Fire assay is a total digestion method. The lower detection limits of 0.01ppm is considered fit for purpose. For
assay data and laboratory tests	 assaying and laboratory procedures used and whether the technique is considered partial or total. 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. 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. 	Blackham drilling, ALS completed the analyses using industry best-practice protocols. ALS is globally-recognized and highly-regarded in the industry. Historical assaying was undertaken at Amdel, SGS, and KalAssay laboratories, and by the on-site Agincourt laboratory. The predominant assay method was by Fire Assay with AAS finish. The lower detection limit of 0.01ppm Au used is considered fit for purpose. 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. For Blackham drilling certified reference material, blanks and duplicates were submitted at approximately 1:20. Check samples are routinely submitted to an umpire lab at 1:20 ratio. Analysis of results confirms the accuracy and precision of the assay data. It is understood that previous explorers great Central Mines, Normandy and Agincourt employed QAQC sampling, though digital capture of the data is ongoing, and historical QAQC data have not been assessed. Results show good correlation between original and repeat analyses with very few samples plotting outside acceptable ranges (+/-20%).
Verification of sampling and assaying	 The verification of significant intersections by either independent or alternative company personnel. The use of twinned holes. Documentation of primary data, data entry 	 Blackham's significant intercepts have been verified by several company personnel, including the database manager and exploration manager. There were no twinned holes drilled in this program. Drilling has been designed at different orientations, to help correctly model the mineralisation orientation. Wiluna data represents a portion of a large drilling database compiled since the 1930's by various project owners. 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-

Location of data points Data spacing and distribution	 procedures, data verification, data storage (physical and electronic) protocols. Discuss any adjustment to assay data. 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. Specification of the grid system used. Quality and adequacy of topographic control. Data spacing for reporting of Exploration Results. 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. Whether sample compositing has been applied. 	 hole survey information. QAQC and data validation protocols are contained within Blackham's manual "Blackham Exploration Manual 2016v2". Historical procedures are not documented. The only adjustment of assay data is the conversion of lab non-numeric code to numeric for estimation. All historical holes appear to have been accurately surveyed to centimetre accuracy. Blackham's drill collars are routinely surveyed using a DGPS with centimetre accuracy, though coordinates reported herein are GPS surveyed to metre-scale accuracy. Grid systems used in this report are Wil10 local mine grid and GDA 94 Zone 51 S. Drilling collars were originally surveyed in either Mine Grid Wiluna 10 or AMG, and converted in Datashed to MGA grid. An accurate topographical model covering the mine site has been obtained, drill collar surveys are closely aligned with this. Away from the mine infrastructure, drill hole collar surveys provide adequate topographical control. Blackham's exploration holes are generally drilled 25m apart on east-west sections, on sections spaced 50m apart north-south. 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 drill spacing have also been modelled but with lower confidence. The mineralisation lodes show sufficient continuity of both geology and grade between holes to support the estimation of resources which comply with the 2012 JORC guidelines 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 results were prioritized over the 4m composite values.
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. 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. 	 Drill holes were generally orientated perpendicular to targets to intersect predominantly steeply-dipping north-south or northeast-southwest striking mineralisation. The perpendicular orientation of the drillholes to the structures minimises the potential for sample bias.
Sample security	The measures taken to ensure sample security.	• It is not known what measures were taken historically. For Blackham drilling, Drill samples are delivered to McMahon Burnett 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.
Audits reviews	or	•	The results of any audits or reviews of sampling techniques and data.	No external audit has been completed for this resource estimate. For Blackham drilling, data has been validated in Datashed and upon import into Micromine. QAQC data has been evaluated and found to be satisfactory.

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	 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 security of the tenure held at the time of reporting along with any known impediments to obtaining a license to operate in the area. 	 The drilling is located wholly within M53/6, M53/200, M53/44, M53/40, M53/30, M53/468, M53/96, M53/32. The tenements are owned 100% by Matilda Operations Pty Ltd, a wholly owned subsidiary of Blackham Resources Ltd. The tenements are in good standing and no impediments exist. Franco Nevada have royalty rights over the Wiluna Mine mining leases of 3.6% of gold revenue payable.
Exploration done by other parties	Acknowledgment and appraisal of exploration by other parties.	• 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	Deposit type, geological setting and style of mineralisation.	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 Wiluna Domain of the Wiluna greenstone belt.
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 	There is no new drilling information included in this release

	 dip and azimuth of the hole down hole length and interception depth hole length. 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. 	
Data aggregation methods	 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. 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. The assumptions used for any reporting of metal equivalent values should be clearly stated. 	No significant intercepts reported
Relationship between mineralisation widths and intercept lengths	 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 be reported. 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'). 	• Lode geometries at Wiluna are generally steeply east or steeply west dipping. 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. Drill holes reported herein have been drilled as closed to perpendicular to mineralisation as possible. In some cases due to the difficulty in positioning the rig close to remnant mineralisation around open pits this is not possible.
Diagrams	 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 	See body of this report.

	sectional views.
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. Full reporting of the historical drill hole database of over 80,000 holes is not feasible.
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. Other exploration tests are not the subject of this report.
Further work	 The nature and scale of planned further work (eg 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. Follow-up resource definition drilling is likely, as mineralisation is interpreted to remain open in various directions. Diagrams are provided in the body of this report.

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
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 validation procedures used. 	 All data has been uploaded using Datashed which incorporates a series of internal checks. The Wiluna dataset has been validated in Datashed and Surpac using internal validation macros and checks. Holes have been checked and corrected where necessary for: Intervals beyond EOH depth Overlapping intervals Missing intervals Holes with duplicate collar co-ordinates (i.e. same hole with different names) Missing dip / azimuth Holes missing assays Holes missing geology
Site visits	 Comment on any site visits undertaken by the Competent Person and the outcome of those visits. If no site visits have been undertaken indicate why this is the case. 	The site is regularly visited by the Competent Person, and no problems were identified.
Geological interpretation	 Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit. Nature of the data used and of any assumptions made. The effect, if any, of alternative interpretations on Mineral Resource estimation. The use of geology in guiding and controlling Mineral Resource estimation. 	 The interpretation of the mineralisation was carried out using a methodical approach to ensure continuity of the geology and estimated mineral resource using Surpac software. The confidence in the geology and the associated mineralisation is high. All available geological data was used in the interpretation including mapping, drilling, oxidation surfaces and interpretations of high grade ore shoots. Only diamond and reverse circulation drilling samples were used in the final estimate however all available grade control data was used in the geological assessment. For the open pit resource a lower cut-off grade of 0.3g/t was used. Previous models had focussed on the high grade underground mineralisation and was modelled to a 4g/t lower cut. No alternate interpretations have been completed. The current interpretation follows similar methodology to that used historically. Drill logging has been used to constrain the 3D wireframes. Gold mineralisation is predominantly associated with second to third order north and northeast trending brittle to brittle-ductile dextral strike-slip faults, localised at dilational bends or jogs along faults, at fault intersections,

	 The factors affecting continuity both of grade and geology. 	horsetail splays and in subsidiary overstepping faults.
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. 	 Strike length = ~ 3700 m Width (total of combined parallel lodes) = ~ 800 m Depth (from surface) = ~ 0 to 1000 m
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 availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data. The assumptions made regarding recovery of by-products. Estimation of deleterious elements or other non-grade variables of economic significance (eg sulphur for acid mine drainage characterisation). In the case of block model interpolation, the 	 The sample domains were flagged into an Access database from a validated wireframe. 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%. Only Reverse Circulation (RC) and Diamond Drilling were used in the estimate. Resource estimation for the Wiluna mineralisation was completed using Ordinary Kriging for Gold (Au) and for Sulphur (S). Blockmodel field coding was used to constrain the estimate. Soft boundaries were utilised between the oxidation surfaces. Only samples contained within each individual ore wireframe were used for the estimate of that lode. A number of previous resource estimates and studies have been undertaken and were reviewed to assist in the development of this resource estimate. The modelled wireframes were used to create a blockmodel with a user block size varying depending on orebody geometry, estimation parameters and drillhole spacing. Specifically for the Golden Age narrow vein a user block size of 2mE by 2mN by 2mRL. The model used variable sub-blocking to 0.5mE by 0.5mN by 0.5mRL. The smaller block sizes are based on the narrow nature of the Golden Age ore body and the corresponding data density. The search ellipses used were 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 the drilling and as described in the logging. This geometry was checked to ensure that it was also supported by the variogram analysis. Ordinary kriging parameters were also checked against those used in previous resource estimates and variography studies. No significant differences were discovered. Three search passes were used to populate blocks using search ellipse distances based on ranges observed in the variograms. Typically the first pass was no more than 30 m

	 block size in relation to the average sample spacing and the search employed. Any assumptions behind modelling of selective mining units. Any assumptions about correlation between variables. Description of how the geological interpretation was used to control the resource estimates. Discussion of basis for using or not using grade cutting or capping. The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available. 	 Topcuts were determined from statistical analysis. A number of factors were taken into consideration when determining the top-cuts including: The disintegration point of the data on the probability plots; Having a coefficient of variance (CV) under 2.0; and Reviewing the model (block) grades against the composites. 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; A comparison of the estimated block grades for the ordinary kriged model against an inverse distance model. A comparison of the estimated block grades for ordinary kriged models using different cut-off grades for the composites. A comparison of the estimated block grades against the composite grades along northings.
Moisture	 Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content. 	Tonnages are estimated on a dry basis.
Cut-off parameters	The basis of the adopted cut-off grade(s) or quality parameters applied.	 The nominal cut-off grade of applied for the individual resource areas 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. The open pit resource was reported at 0.5g/t cutoff in oxide and at 1.0g/t cutoff in transitional and fresh in \$1800 Shell while the underground was reported at 2.00g/t in fresh rock outside the shell. A global reporting cut-off grade of 3.00g/t was applied to the Golden Age underground resource. This is based on the understanding that a variety of underground mining techniques (including but not exclusive to) air-legging may be used. For the remaining resources a cut-off of 0.5g/t was applied in the in the oxide and 1.0g/t in transitional when relevant. In fresh rock less than 200m below the surface a 2.0g/t cut-off was applied for the remaining resources.

assumptions

Mining factors or | ● 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.

• No specific mining factors or assumptions have been applied.

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.

- Wiluna ores are typically extremely refractory, with most gold occurring in either solid solution or as submicroscopic particles within fine-grained sulphides. Historically Au recovery through the Wiluna BIOX plant averaged 83%. Any sulphide mineralisation would be treated through the same processing plant and therefore it is assumed that recoveries will be similar.
- Golden Age mineralisation is free milling/oxide gold; this is located throughout the quartz but appears more concentrated where there are stylolites. There is commonly a strong base metals signature with galena, chalcopyrite, sphalerite and pyrite being common. These areas also include higher grades but the gold is not associated with the sulphides as with the refractory ore. The mineralization is mainly in the quartz reef but there are some splays of quartz, especially to the footwall which can contain gold.

Environmental		Assumptions made regarding possible	• No environmental, permitting, legal, taxation, socio-economic, marketing or other relevant issues are known, that
Environmental factors assumptions	or	 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 	No environmental, permitting, legal, taxation, socio-economic, marketing or other relevant issues are known, that may affect the estimate. No environmental, permitting, legal, taxation, socio-economic, marketing or other relevant issues are known, that may affect the estimate.
		have not been considered this should be reported with an explanation of the environmental assumptions made.	
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. 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 densities were assigned as 1.80 t/m3 for oxide, 2.40 t/m3 for transitional and 2.80 t/m3 A total of 16,206 bulk density determinations have been collected by extensive sampling of diamond drill core in Calais – Henry 5, East Lode North and Calvert areas throughout the orebody and in wallrock adjacent to the mineralisation. All sections of the underground resource are in primary rock, and Bulk Density values are relatively uniform throughout. Bulk Density determinations were completed by Apex staff for every assayed interval since the commencement of Apex's involvement with the project to the end of 2008. In addition, in areas where Apex bulk density determinations are considered too sparse, pre-Apex diamond core has been used for determinations.

Classification	estimo the dif The bo Minero catego Wheth taken confid reliabi contin quality data). Wheth	her appropriate account has been of all relevant factors (ie relative lence in tonnage/grade estimations, ility of input data, confidence in uity of geology and metal values, y, quantity and distribution of the	 A range of criteria were considered when addressing the suitability of the classification boundaries to the resource estimate. Geological continuity and volume models; Drill spacing and available mining information; Modelling technique Estimation properties including search strategy, number of informing composites, average distance of composites from blocks, number of drillholes used and kriging quality parameters. The classification for this model was predominantly based on the estimation pass. With the first pass relating to an indicated resource and the second pass being inferred. The classification of the blocks was also visually checked and adjusted to remove any "spotted dog" effects. No measured resources were calculated. Estimated blocks that have been informed by predominantly historical drilling where QA/QC data has not been reviewed were assigned as inferred.
Audits or reviews		esults of any audits or reviews of ral Resource estimates.	 Audits have been undertaken on the resource estimates completed by Apex Minerals in 2012. No major issues were discovered and recommendations made from those audits have been assessed and included where required in subsequent estimates.
Discussion of relative accuracy/ confidence	relative Mineron approach by the application of the	e appropriate a statement of the ve accuracy and confidence level in the val Resource estimate using an ach or procedure deemed appropriate competent Person. For example, the vation of statistical or geostatistical dures to quantify the relative accuracy resource within stated confidence or, if such an approach is not deemed	This resource estimate is intended for both underground and open pit mining assessment and reports global estimates.

- 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.