

19 February 2019

# **ASX Announcement**

# EXCELLENT DRILL RESULTS EXTEND BOTH OPEN PIT AND UNDERGROUND MINING AT GOLDEN AGE

# **Highlights**

- Low-cost development of Golden Age Lower (GA Lower) underground commences this week providing additional high grade ore for the mill over at least the next 6 months
- Recent resource definition and grade control drilling at Golden Age North (GAN) increased confidence in excellent grades as the orebody deepens
- GAN open pit likely to be extended along strike and to drive deeper on these strong grades
- Potential for new near surface GAN underground mining enhanced by both excellent recent RC drill and grade control results
- The Golden Age underground, Blackham's highest-grade orebody, has been consistently extended over the last 2 years and has successfully maintained a rolling mine life of at least 6 months
- If dual underground mining areas can be opened up (GA Lower and GAN) it will significantly increase the volume of high grade ounces delivered to the plant

**Blackham Resources Limited** (ASX: BLK) (Blackham or the Company) is pleased to provide an update of drilling results from the high-grade free milling Golden Age North (GAN) orebody, closely located to Blackham's 1.8Mtpa Wiluna Gold Plant.

Drilling below existing underground workings has led to an extension of the Golden Age Underground mine life. Underground development is scheduled to commence this week to access the mineralisation in Golden Age Lower (GA Lower) which will provide additional high grade ore for the mill over at least the next 6 months. The Republic reef mineralisation cuts through the exiting Calais Decline allowing low cost development to the GA Lower deposit.

Grade control drilling has confirmed that the GAN pit (in open pit production since November 2018) and the historically completed Golden Age Pit (GA Pit) form a continuous zone of over 600m in length. The area between the GAN reserve pit and the old pit was poorly drilled in the past owing to infrastructure limiting drilling access. The new results enable the GAN pit to be extended southward and deepened to connect with the GA Pit – extending the GAN pit mine life, thereby providing increased high-grade mill feed in coming months.

In addition, the results from the first three deeper RC holes at GAN were received. These holes were designed to test the near-surface underground potential of the GA mineralisation and all holes produced significant results:

9m @ 13.6g/t from 95m incl. 2m @ 54.4g/t	122g*m	WURC0728
3m @ 9.62 g/t from 71m	29g*m	WURC0726
2m @ 10.66g/t from 103m	21g*m	WURC0727

# **BOARD OF DIRECTORS**

Milan Jerkovic - Executive Chairman Bryan Dixon - Managing Director Greg Fitzgerald — Non-Executive Director Tony James — Non Executive Director

#### **ASX CODE**

BLK

#### **CORPORATE INFORMATION**

1,377M Ordinary Shares 119M Unquoted Options

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Further drilling is ongoing, focussed on confirming available development options for this new area of near-surface underground mining. The underground mineralisation can be accessed either from the base of the GAN pit or via existing deeper underground workings. The current Golden Age underground mining operation commences approximately 350m below surface and is based on the Golden Age Shear – a connected but separate structure that is truncated by the GAN Fault. Recent grade control drilling towards the base of the GAN pit returned excellent grade zones with greater than 20 gram-metre intercepts – further reinforcing the underground mining potential.

Milan Jerkovic, Executive Chairman said "Blackham has been actively extending Golden Age, its highest-grade orebody, over the last 2 years and has successfully maintained a rolling mine life of at least 6 months. Mining is now due to start in the Golden Age Lower area and extensions to the Golden Age North open pit have already been identified. Further, outstanding near surface results support the potential for new areas of underground mining immediately below the existing Golden Age open pits. Further drilling and evaluation is expected to support the early expansion of the underground development to provide additional high-grade ore feed to the Wiluna gold plant."

# Golden Age North - Currently mining open pits from surface

Mining of the Golden Age North (GAN) pit commenced in November 2018. Several drill programmes over the past six months have indicated the likelihood for extensions to the GAN pit both along strike and below the planned pit design. Recent RC grade control drilling (with numerous >20 g\*m intercepts) and the commencement of a further round of RC drilling have produced some outstanding results:

9m @ 13.58g/t from 95m incl. 2m @ 54.37g/t	122g*m	WURC0728
3m @ 9.62 g/t from 71m	29g*m	WURC0726
2m @ 10.66g/t from 103m	21g*m	WURC0727

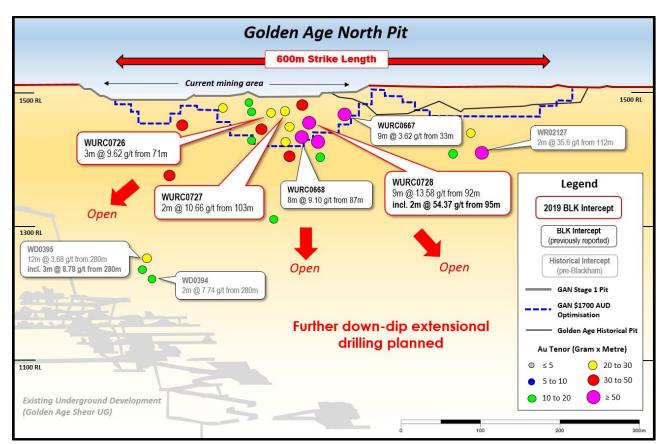


Figure 1. Long-section through Golden Age North area showing pierce points of new and previous drilling.



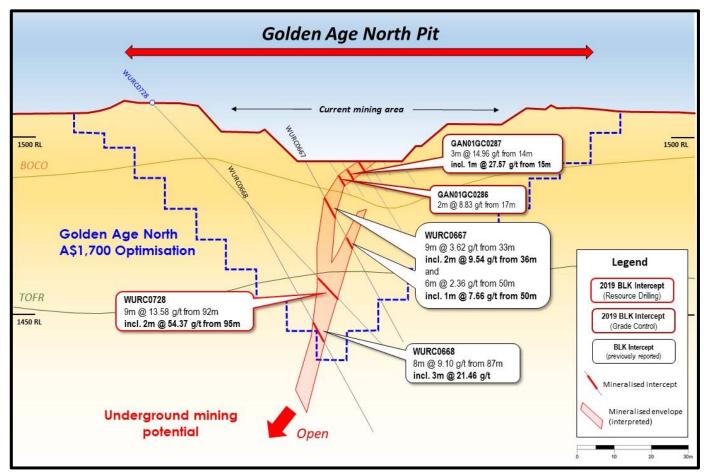


Figure 2. Cross-section through Golden Age North area showing pierce points of new and previous drilling demonstrating consistent underground grades

Recent mining of the GAN pit has resulted in an increased geological understanding and also revealed the presence of more extensive historic underground workings in the top ~30m below surface. The grade control drilling covering the base of the GAN pit has clearly revealed an increasing gold grade with the higher-grade lower parts of the mineralisation remaining unmined. Historical reported mined grade of 17 g/t Au for the top 30m near surface underground workings is supported by these recent excellent grade control results that now extends below them

New RC drilling in the saddle area between the old and new Golden Age pits confirms the continuity of the mineralisation along the entire 600m strike length (coupled with results reported previously (ASX: BLK 11th December 2018). Drilling of the saddle area was previously limited owing to extensive surface infrastructure. This new drilling data confirms the potential for higher-grade mineralisation in fresh rock and provides confidence in the potential for underground extraction. Underground drilling intercepted the Golden Age North fault structure at a depth of 370m below surface: 1.0m @ 15.5 g/t Au GAGC0241. The recent results have two significant consequences:

- 1. Remodelling of the mineralisation through the saddle area followed by re-optimisation will result in a significant deepening and extension southwards of the GAN pit producing additional higher-grade tonnes for treatment at the nearby Wiluna plant (1.5km away).
- 2. With intercepts ranging from 10 to 120 gram-metres drilling will continue, aimed at defining the resource and justifying a further underground mining operation in the top 200-300m of the GAN Fault mineralisation.



## **Golden Age Background and Program Details**

The Golden Age Underground mine is accessed via the Bulletin portal located only 2.5km from the 1.8Mtpa Wiluna Gold Plant. The Golden Age Fault is currently being mined from surface in the GAN pit and earlier small pits have been completed on both the Golden Age and Republic Faults (see Figure 3).

The Golden Age Reef that is currently being mined underground is an oblique transfer fault largely bounded by the Golden Age and Republic Faults to the north and south respectively. Approximately 180,000oz @ 9g/t gold has been produced from the Shear to date, with solid cash flows being generated over the last 18 months. The Golden Age Shear does not outcrop and was not mined by early prospectors.

Mining of the Golden Age system over the last 2 years has provided Blackham with a greater understanding of the style and structure of mineralisation. With the orebody now better understood, and the mineralisation open both down dip and down plunge, mining will increasingly target the extensions.

Drilling is aimed at maintaining a minimum 6-12 month mine life at the Golden Age Shear and to significantly increase mine production. Extensive data collation (including additional structural mapping) and a review of the stratigraphic sequence, deformation and mineralising events helped prioritise drill targets. Most recent drilling has been aimed at defining extensions below the zone of mineralisation currently being mined (Golden Age Lower).

## **Underground Mining – Golden Age Lower**

Blackham's strategy for the high-grade underground Golden Age free milling mining project is to expand the resource and mining rate substantially above the current production of approximately 700-1000 ounces per month.

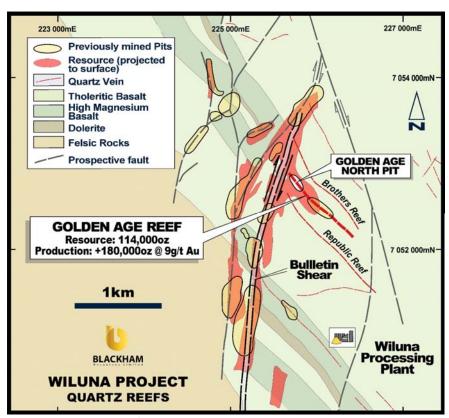
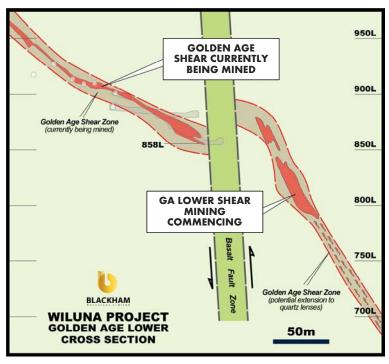


Figure 3. Plan view of Wiluna Project geology and Golden Age location.



A key recent focus has been the Golden Age (GA) Lower area that has not been recognised previously as it is offset from Golden Age Middle zone by a barren basalt fault (see Figure 4). Previously reported drilling has confirmed a similar tenor of mineralisation to that being mined above and mine planning studies have confirmed the viability of accessing this area and developing multiple stoping areas for increased production. planning involves mine development from the existing nearby Calais decline along the mineralised Republic Fault (see Figure 5) - hence providing additional mill feed. Development is planned to start this week on levels at 800-850mRL.

Figure 4. Golden Age long section showing mine development and latest drilling results.



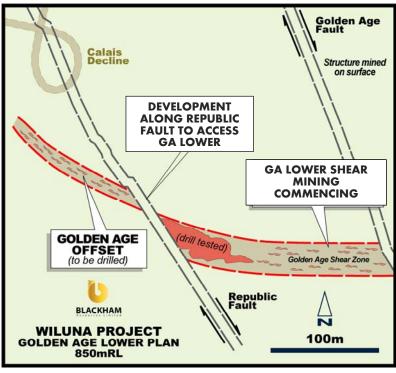


Figure 5. Plan view of the mineralised Republic Fault extending from the existing Calais Decline linking to the GA Lower Shear. Developing along the Republic fault will provide development ore minimising development costs in accessing the GA Lower.

Underground diamond drilling below the current planned mining area continues aimed at further identifying high grade mill feed so that the underground GA Lower operation can extend through 2019 and beyond. The Golden Age underground, Blackham's highest-grade orebody, has been consistently extended over the last 2 years and has successfully maintained a rolling mine life of at least 6 months. If dual underground mining areas (GA Lower and GAN) can be opened up, it will significantly increase the volume of high grade ounces delivered to the plant.



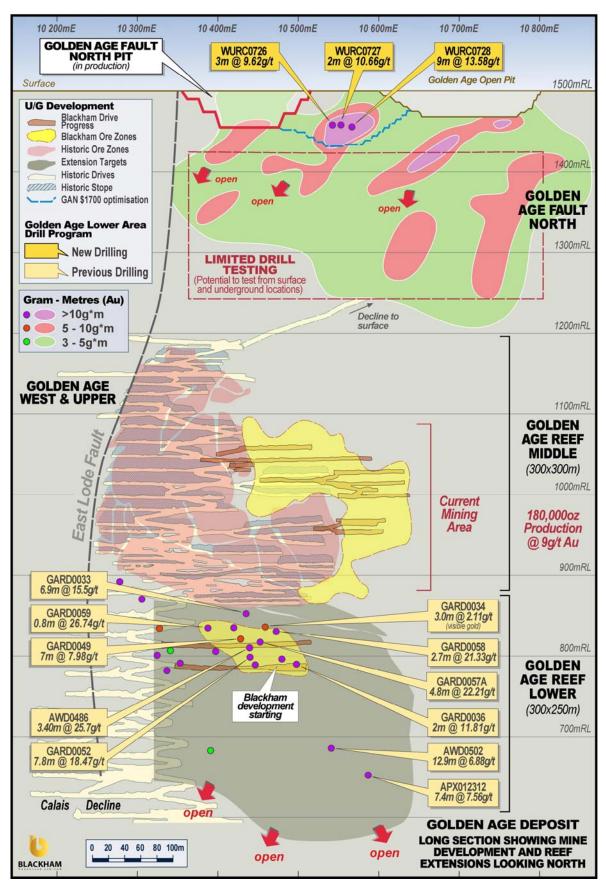


Figure 6. Golden Age long section showing recent but previously reported drilling results.



#### For further information on Blackham please contact:

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# **Matilda-Wiluna Gold Operation**

Measured, Indicated & Inferred Resources (JORC 2012) at 30 June 2018.

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					<b>OPEN PIT</b>	RESOURC	ES					
Mining Contro		Measured Indicated			Inferred			Total 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	0.1	1.14	4	7.0	1.44	323	3.6	1.30	151	10.7	1.39	477
Wiluna	-		-	15.4	2.38	1,181	3.1	3.21	324	18.6	2.52	1,505
Williamson	-		-	4.1	1.68	219	1.6	1.58	79	5.6	1.65	298
Regent	-		-	0.7	2.71	61	3.1	2.11	210	3.8	2.22	271
Tailings	-		-	34.0	0.62	680	-		-	34.0	0.62	680
Stockpiles				0.5	0.84	15				0.5	0.84	15
OP Total	0.1	1.14	4	61.7	1.25	2,479	11.4	2.08	763	73.2	1.38	3,246
				UNI	DERGRO	JND RESOL	JRCES					
		Measure	ed	l	ndicated			Inferred		Total 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	-		-	0.1	2.51	10	0.5	3.66	61	0.6	3.44	71
Wiluna	-		-	8.0	5.37	1,376	13.5	4.33	1,885	21.5	4.72	3,262
Williamson	-		-	-		-	0.3	2.61	23	0.3	2.61	23
Golden Age	0.02	6.80	4	0.1	7.66	24	0.5	3.77	63	0.6	4.46	91
Galaxy				0.1	3.70	6	0.2	2.80	16	0.2	2.98	22
UG Total	0.0	6.80	4	8.3	5.31	1,416	15.0	4.24	2,049	23.3	4.63	3,469
Grand Total	0.1	2.12	8	70.0	1.73	3,895	26.4	3.31	2.812	96.5	2.16	6.715

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.

#### **Competent Persons Statement**

The information contained in the report that relates to Exploration Targets and Exploration Results at the Matilda-Wiluna Gold Operation ("Operation") is based on information compiled or reviewed by Mr Jonathan Lea and Cain Fogarty, who are full-time employee of the Company. Mr Lea is a Member of the Australian Institute of Mining and Metallurgy and Mr Fogarty is a Member of the Australian Institute of Geoscientists and both have 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'. Both Mr Lea and Mr Fogarty have 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-Wiluna Gold Operation 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 12 October 2017 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.

# Appendix 1. Drill hole details and significant intercepts.

Hole ID	East	North	RL	EOH (m)	Dip	Azi	From	То	Interval	Au g/t	True Thickness
WURC0726	225666	7052813	514	100	-55	64.3	71	74	3	9.62	2.0
WURC0726						incl.	71	73	2	14.04	1.3
WURC0727	225674	7052767	515	131	-52.4	62.1	103	105	2	10.66	1.3
WURC0728	225674	7052757	515	120	-50.4	64.7	70	71	1	1.54	0.7
WURC0728							92	101	9	13.58	6.0
WURC0728						incl.	95	97	2	54.37	1.3

# Appendix 2

# JORC Code, 2012 Edition – Table 1 (Wiluna Gold Operation)

# **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</li> </ul>	<ul> <li>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, ii) NQ2 with ½ core sampling or LTK60 with full core sampling, and iii) face sampling.</li> <li>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 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. Face samples are taken across the quartz vein, with sample intervals matched to varying intensity of mineralisation as indicated by shearing and sulphides.</li> <li>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.</li> <li>At the laboratory, samples &gt;3kg were 50:50 riffle split to become &lt;3kg. The &lt;3kg splits were crushed to &lt;2mm in a Boyd crusher and pulverized via LM5 to 90% passing 75µm to produce a 50g charge for fire assay. Historical assays were</li> </ul>



Drilling techniques	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 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).	<ul> <li>obtained using either aqua regia digest or fire assay, with AAS readings.</li> <li>Blackham analysed RC samples and GARD* holes using ALS laboratories in Perth. Analytical method was Fire Assay with a 50g charge and AAS finish. GAGC* holes and face samples were pulverized in an LM5 bowl to produce a 30g charge for assay by Fire Assay with AAS finish at the Wiluna Mine site laboratory.</li> <li>Blackham data reported herein is RC 5.5" diameter holes. Diamond drilling is oriented NQ or LTK60 core.</li> <li>Historical drilling data contained in this report includes RC, AC and DD core samples. RC sampling utilized face-sampling hammer of 4.5" to 5.5" diameter, RAB sampling utilized openhole blade or hammer sampling, and DD sampling utilized NQ2</li> </ul>
Drill sample recovery	Method of recording and assessing core and chip sample recoveries and results assessed.	<ul> <li>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.</li> <li>For Blackham RC drilling, chip sample recovery is visually estimated by volume for each 1m bulk sample bag and recorded</li> </ul>
	<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>	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 in RC holes. 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).  For Blackham drilling, no such relationship was evaluated as sample recoveries were generally excellent. Face sampling is generally prone to higher-grade bias, though bias effects were not studied on these samples owing to the reconnaissance stage.
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>	<ul> <li>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.</li> <li>Logging of geology and colour for example are interpretative and qualitative, whereas logging of mineral percentages is quantitative.</li> <li>All holes were logged in full.</li> <li>Core photography was taken for BLK diamond drilling.</li> </ul>
Sub-sampling techniques and	<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</li> </ul>	For core samples, Blackham uses half core cut with an automatic core saw. Samples have a minimum sample width of 0.1m and maximum of 1.2m, though typically 1m intervals were selected. A cut line is routinely drawn at an angle 10 degrees to



#### sample preparation

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 sub-sampling 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.
- 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 20m 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 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.

#### Quality of assay data and laboratory tests

- The nature, quality and appropriateness of the 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.
- Fire assay is a total digestion method. The lower detection limits
  of 0.01ppm is considered fit for purpose. For Blackham
  Exploration drilling, ALS completed the analyses using industry
  best-practice protocols. ALS is globally-recognized and highlyregarded 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%). Blanks and quartz flushes are inserted after logged high grade core samples to minimise and check for smearing, analyses of these results typically shows no smearing has occurred.
Verification of	The verification of significant intersections by either	Blackham's significant intercepts have been verified by several
sampling and assaying	independent or alternative company personnel.	company personnel, including the database manager and exploration manager.
, 5	The use of twinned holes.	Twinned holes were not drilled in this program, however,
	Documentation of primary data, data entry procedures, data	correlation between intercepts was generally poor when intercepts were greater than 20m apart reflecting the short
	verification, data storage (physical and electronic) protocols.  • Discuss any adjustment to assay data.	range variability expected in a gold orebody like Wiluna
	Discuss any adjustment to assay data.	Wiluna data represents a portion of a large drilling database compiled since the 1930's by various project owners.
		<ul> <li>Data is stored in Datashed SQL database. Internal Datashed</li> </ul>
		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 2018".
		Historical procedures are not documented.
		The only adjustment of assay data is the conversion of lab non- numeric code to numeric for estimation.
Location of data	Accuracy and quality of surveys used to locate drill holes (collar	All historical holes appear to have been accurately surveyed to
points	and down-hole surveys), trenches, mine workings and other	centimetre accuracy. Blackham's drill collars are routinely surveyed using a DGPS with centimetre accuracy, though
	locations used in Mineral Resource estimation.	coordinates reported herein are GPS surveyed to metre-scale
	Specification of the grid system used.	accuracy.  Grid systems used in this report are Wil10 local mine grid and
	Quality and adequacy of topographic control.	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.
		<ul> <li>An accurate topographical model covering the mine site has</li> </ul>
		been obtained, drill collar surveys are closely aligned with this.  Away from the mine infrastructure, drill hole collar surveys
		provide adequate topographical control.
Data spacing and distribution	Data spacing for reporting of Exploration Results.	Blackham's exploration holes are generally drilled 25m apart on east-west sections, on sections spaced 50m apart north-south.
distribution	Whether the data spacing and distribution is sufficient to  actablish the days of appleasing and are do continuity.	<ul> <li>Using Blackham's drilling and historical drilling, a spacing of</li> </ul>
	establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve	approximately 12.5m (on section) by 20m (along strike) is
	estimation procedure(s) and classifications applied.	considered adequate to establish grade and geological continuity. Areas of broader drill spacing have also been
	Whether sample compositing has been applied.	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	Whether the orientation of sampling achieves unbiased	RC drill holes were generally orientated perpendicular to
in relation to	sampling of possible structures and the extent to which this is	targets to intersect predominantly steeply-dipping north-south
geological structure	known, considering the deposit type.	or northeast-southwest striking mineralisation, though UG DD holes were in places drilled obliquely; true widths are shown in
	If the relationship between the drilling orientation and the	the significant intercepts table.
	orientation of key mineralised structures is considered to have	The perpendicular orientation of the drillholes to the structures minimises the potential for sample bias.
	introduced a sampling bias, this should be assessed and reported if material.	manifices the potential for sample bias.
Sample security	The measures taken to ensure sample security.	It is not known what measures were taken historically. For
, , , , , , , , , , , , , , , , , , , ,	2	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 or reviews	<ul> <li>The results of any audits or reviews of sampling techniques and data.</li> </ul>	<ul> <li>No external audit has been completed for this resource estimate.</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.</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 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.</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>	<ul> <li>The drilling is located wholly within 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.</li> <li>The tenements are in good standing and no impediments exist.</li> <li>Franco Nevada have royalty rights over the Wiluna Mine mining leases of 3.6% of net gold revenue.</li> </ul>
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, and underground mining until 2013. 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.	<ul> <li>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.</li> </ul>
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>	There is no new drilling information included in this release
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>In the significant intercepts are reported as length-weighted averages, above a 1m @ 0.6g/t cut-off, or &gt; 1.2 gram x metre cut off (to include narrow higher-grade zones) using a maximum 2m contiguous internal dilution. For the body of the report and in Figures, wider zones of internal dilution are included for clearer presentation. AC intercepts are based on 4m composites.</li> <li>High-grade internal zones are reported at a 5g/t envelope, e.g. MADD0018 contains 14.45m @ 6.74g/t from 162.55m including 4.4m @ 15.6g/t from 162.55m.</li> <li>No metal equivalent grades are reported because only Au is of economic interest.</li> </ul>
Relationship between mineralisation	<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> <li>If it is not known and only the down hole lengths are reported,</li> </ul>	<ul> <li>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</li> </ul>



widths and intercept lengths	there should be a clear statement to this effect (eg 'down hole length, true width not known').	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. True widths are included in the significant intercepts table.
Diagrams	<ul> <li>Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported. These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.</li> </ul>	See body of this report.
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> </ul>	Full reporting of the historical drill hole database of over 80,000 holes is not feasible.
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> </ul>	Other exploration tests are not the subject of this report.
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> </ul>	<ul> <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>