



BLACKHAM
Resources Limited

**Sulphide expansion update:
Low cost pathway to 100-120kozpa gold
production and long mine life**

28 February 2019

ASX: BLK

EXPANSION DFS UPDATE

- Blackham has been progressing its Expansion DFS since finalizing its Expansion PFS in Aug 2017⁽¹⁾
- The Expansion PFS contemplated available options for Blackham developing its 6.7Moz of Resources⁽¹⁾
- In the process of undertaking the Expansion DFS, Blackham has identified a staged approach that allows an initial low capital cost expansion to enable production from its 1.53Moz of Reserves⁽³⁾
- Targeting 100-120kozpa with costs well below its current free milling operation and long mine life
- The initial Stage 1 focuses on the production of a gold concentrate with flexibility to also process its free milling and tailings Reserves
- The Stage 1 Expansion allows Blackham to focus on its highest margin Reserves

(1) Refer to ASX release dated 30 Aug 2017

(2) Refer to ASX release dated 13 September 2018

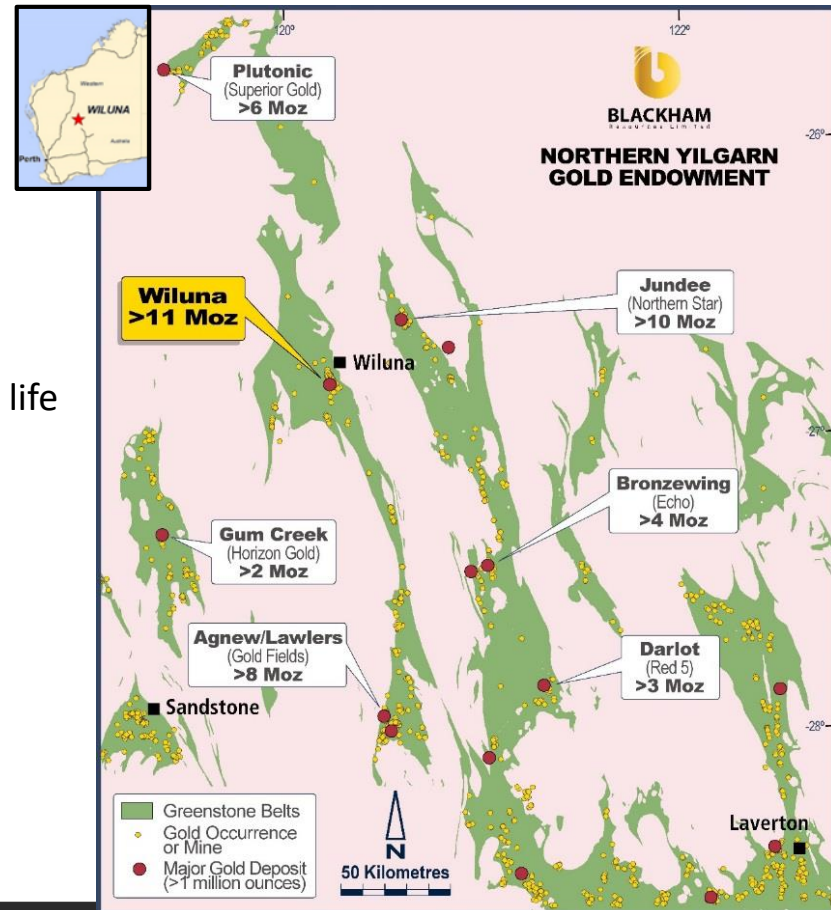
(3) Refer to ASX release dated 31 October 2018

COMPANY OVERVIEW



- Blackham's Matilda-Wiluna Gold Operation has 4.4Moz of historical production
- Four separate large gold systems, +1,440km² of tenure & 55km of strike in Australia's biggest gold belt
- Resources 96Mt @ 2.2 g/t for 6.7Moz Au ⁽¹⁾ (58% Indicated)
- Reserves 26Mt @ 1.8 g/t for 1.53Moz Au ⁽²⁾ with +10 year mine life
- Operational stability attained - 78koz production in CY'18 at A\$1,441/oz AISC
- Opportunity to sell a sulphide gold concentrate as a low cost pathway to initial 100-120kozpa gold production
- Pathway to ~250kozpa with long mine life in a Tier 1 mining jurisdiction

- (1) Refer to ASX release dated 13 September 2018
(2) Refer to ASX release dated 31 October 2018
(3) 1 AUD = 0.71 USD, 18 February 2019



NEW SULPHIDE EXPANSION PLAN

- Increased production
- Focussed on highest margin gold Reserves
- Sensible, staged approach

Current operations

Free milling
production
~ **80kozpa**
~ 3 year mine life
Sunk capital

Stage 1 Expansion

Sulphide concentrate
production
~ **100-120kozpa**
~ 6 year mine life¹
Very low capex

Stage 2 Expansion

Increased throughput
~ **250kozpa**
conversion of
4Moz Resource
Very capital efficient

1. Includes underground reserves and mineral inventory only, with a clear pathway to +10 year life

STAGE 1 EXPANSION - Low cost pathway to Initial 100-120kozpa gold production

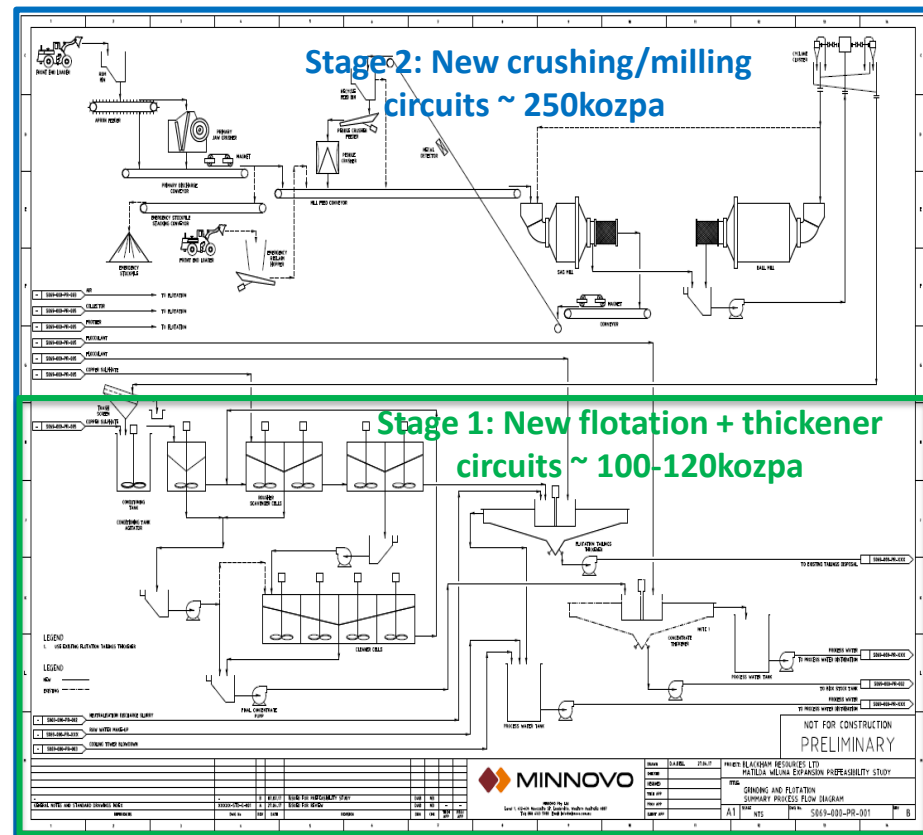
- Simple low capital route to allow gold production from large sulphide Reserves
- Flexibility to process both free milling or sulphide ores
- Allows Blackham to focus on mining its highest margin Reserves
- Addition of flotation circuit to produce ~100-120kozpa, comprising 100kozpa concentrate (~46ktpa @ 70g/t Au) and ~20kozpa Wiltails processing
- Initial focus on high-grade underground inventory, which support an initial 6 year mine life @ 100-120kozpa
- Pathway to +10 year mine life from 1.53Moz of Reserves²
- Shipped in standard containers via Fremantle (Geraldton and Esperance ports options)
- Received various approaches from smelters and traders, discussions for gold concentrate offtake and financing underway. Strong demand for marketable concentrates.
- De-risks the expansion to ~250kozpa processing route for Blackham's 6.7Moz Resources¹
- DFS on Stage 1 and 2 expansion to be completed in Sep'19 quarter

(1) Refer to ASX release dated 13 September 2018

(2) Refer to ASX release dated 31 October 2018

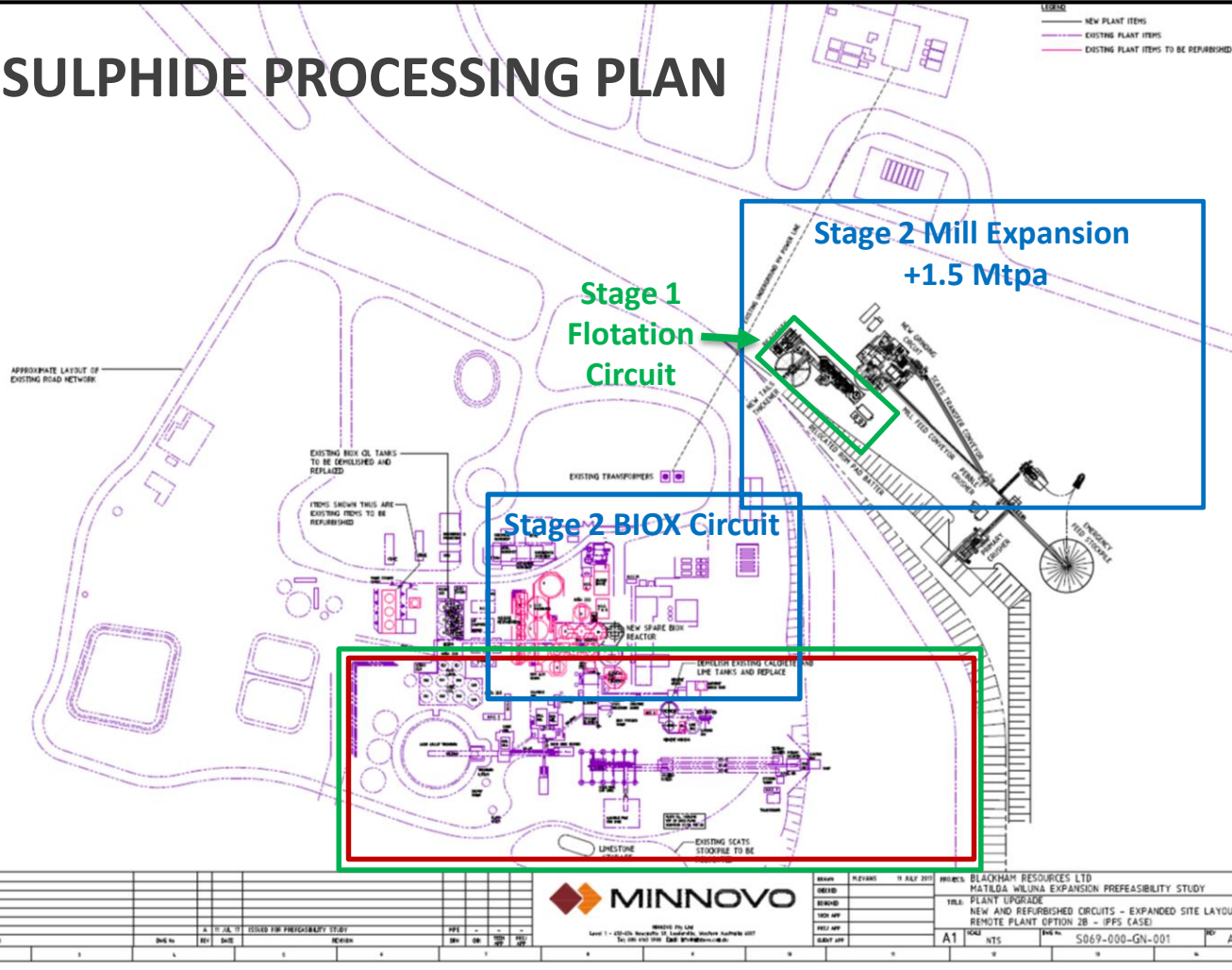
LOW CAPITAL SULPHIDE PROCESSING PLAN

- **Stage 1:** Current mills plus a new flotation plant with concentrate thickener and handling
- The existing 2 ball mills and refurbished rod mill combined with the new flotation plant would allow the existing plant to process 750ktpa, with 90% flotation recovery to produce around 46ktpa gold concentrate at 70g/t Au
- Expansion PFS Concentrate Circuit cost \$17.6M (includes 15% contingency) for 100ktpa which is double the Stage 1 output needs
- When gold concentrate production commences the existing CIP tanks can be used for a whole of ore leach of historical tailings at 2.2Mtpa with 42-54% recoveries
- Wiltails Reserves 11Mt @ 0.65g/t for 234koz
- Stage 1 All in sustaining costs A\$1280-1490/oz (including the concentrate discount)
- **Stage 2:** New comminution, flotation and leach circuits and refurbish BIOX[®] Plant lifting ore processing to 2.2-3.3Mtpa
- Stage 2 All in sustaining costs reduce to A\$1050-1,150/oz





SULPHIDE PROCESSING PLAN



Stage 2 Sulphide
Gold Concentrate
2.2-3.3Mtpa + Free
Milling / Wiltails
~ 250kozpa



Stage 1 Current Mills
Sulphide Gold
Concentrate
0.75Mtpa + Wiltails
~ 100-120kozpa



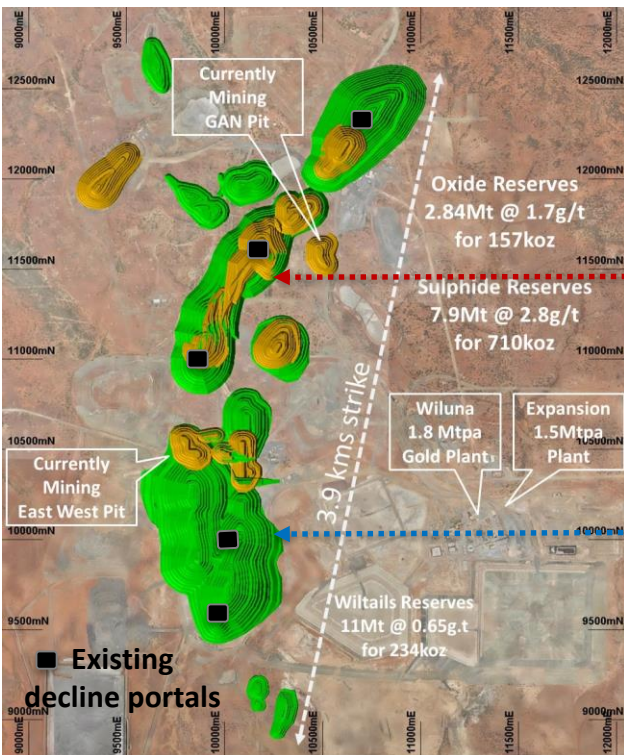
Current:
Oxide 1.8Mtpa
~ 80kozpa



REVISION	REVISION	19 JUL 2011	PROJECT	BLACKHAM RESOURCES LTD MAYTABA WILUNA EXPANSION PREFEASIBILITY STUDY
REVISION	REVISION		TITLE	PLANT UPGRADE
REVISION	REVISION		NEW AND REFRUBISHED CIRCUITS - EXPANDED SITE LAYOUT	
REVISION	REVISION		REMOTE PLANT OPTION 2B - (PPS CASE)	
REVISION	REVISION		A1	NTS
REVISION	REVISION		SCALE	S069-000-GN-001
REVISION	REVISION		NO	A

WILUNA SULPHIDE RESERVES 980koz @ 3.2g/t Au

- Mining free milling pits de-risks the open pit sulphide Reserves
- Extensive underground development access already in place

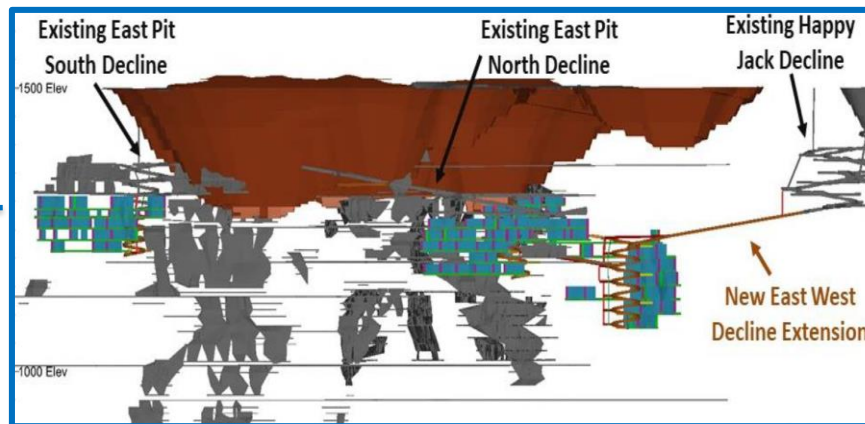
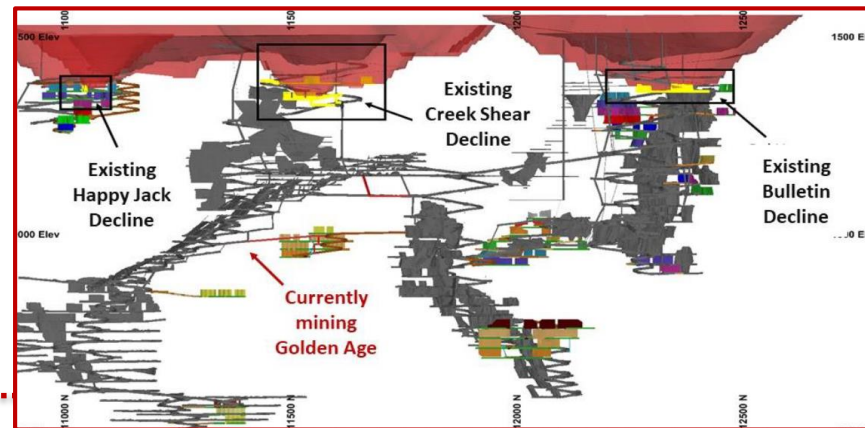


**Bulletin – Happy Jack
Probable Reserves
155koz @ 4.6g/t Au¹**

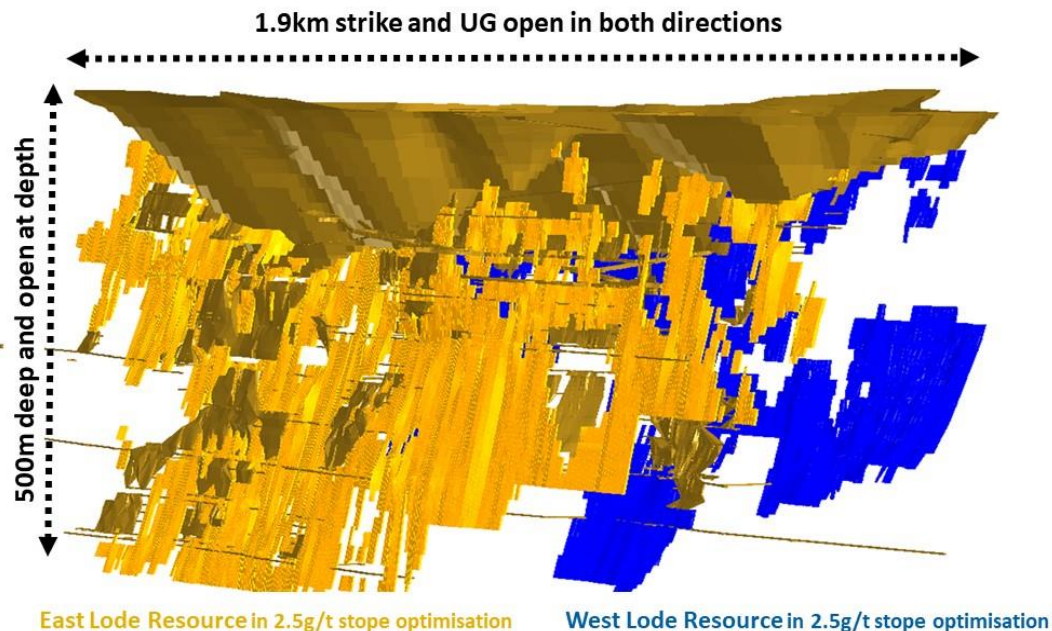
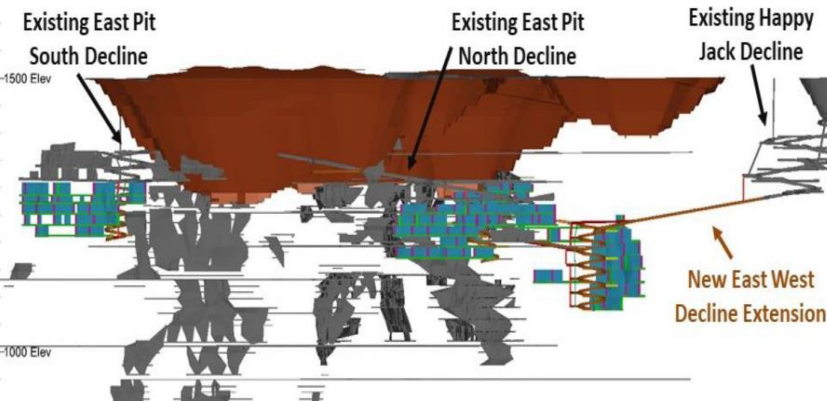
**5 existing declines
over 3.9kms of
strike = low
development cost**

**East West
Probable Reserves
115koz @ 5.0g/t Au¹**

(1) Refer to ASX release dated 31 October 2018



EAST WEST UNDERGROUND OPPORTUNITY



2.1Moz mined mainly in period from 1930-1946
Resource 1.8Moz @ 3.8g/t Au to 500m depth 3,600oz/vm

- UG Probable Reserves 115koz @ 5.0g/t Au²
- 2 large lodes up to 30m wide
- 1.9km strike and open to the south
- 3.9Moz endowment in top 500m
- Early mining of East West UG allows ramp up to 250kozpa
- Extensive UG Resource beyond Reserves requires further drilling
- Very large exploration target in next 500m vertical

(1) Refer to ASX release dated 13 September 2018
(2) Refer to ASX release dated 31 October 2018

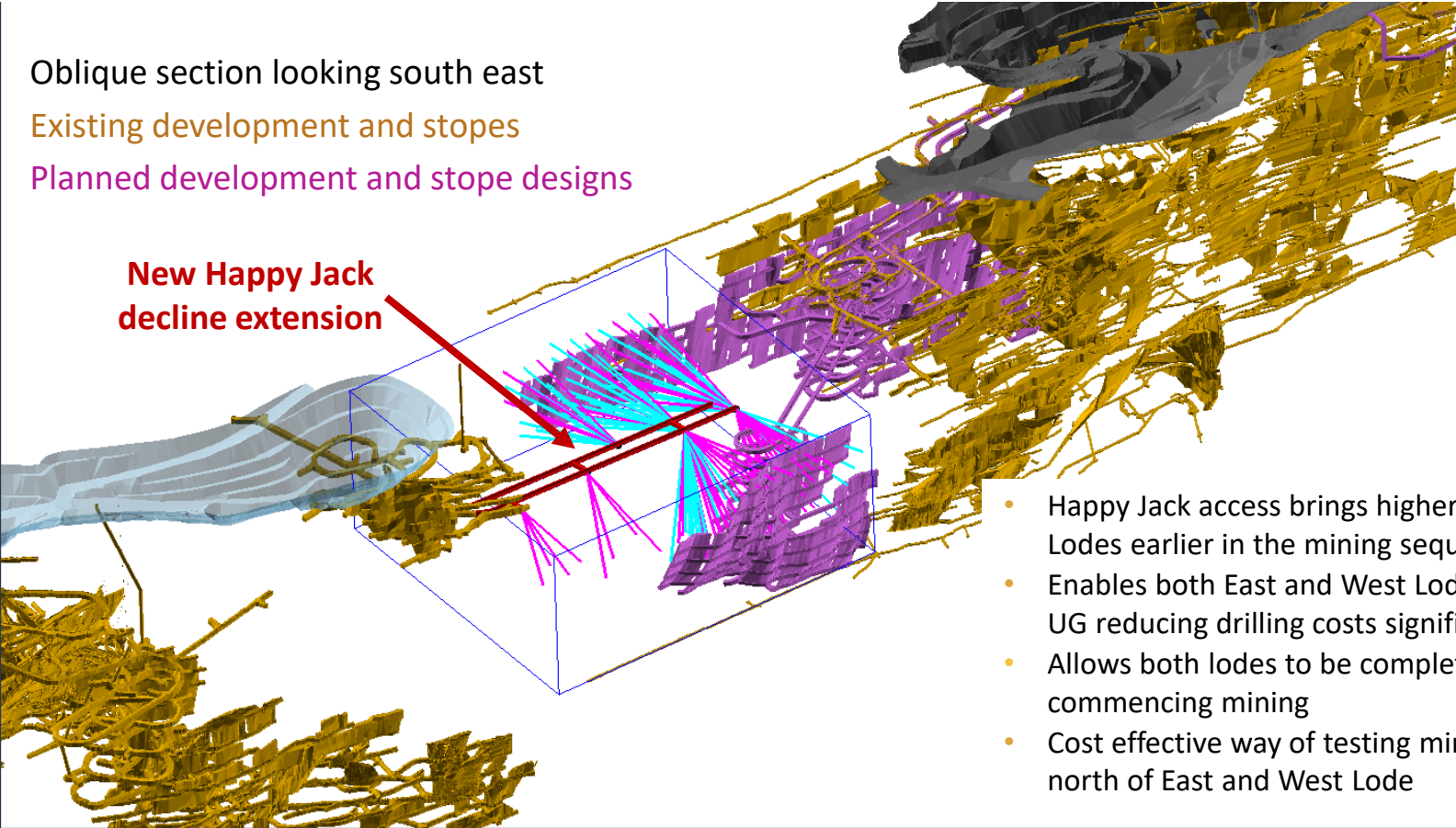
Revised East & West mine plan brings forward high grade ore

Oblique section looking south east

Existing development and stopes

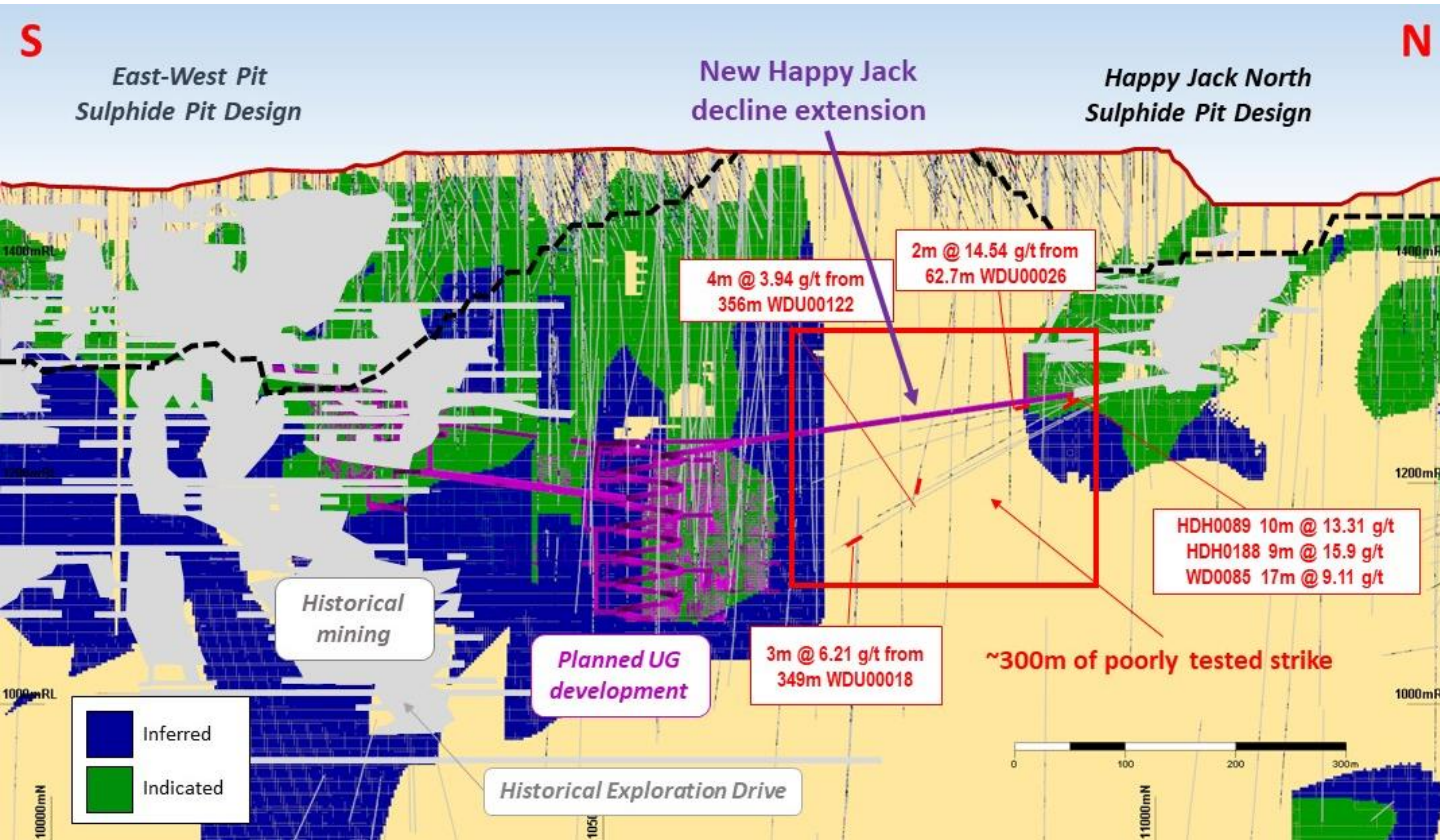
Planned development and stope designs

**New Happy Jack
decline extension**



- Happy Jack access brings higher grade East & West Lodes earlier in the mining sequence
- Enables both East and West Lode to be drilled from UG reducing drilling costs significantly
- Allows both lodes to be completely drilled out prior to commencing mining
- Cost effective way of testing mineralisation extensions north of East and West Lode

WEST LODGE NORTH & HAPPY JACK – orebody extensions

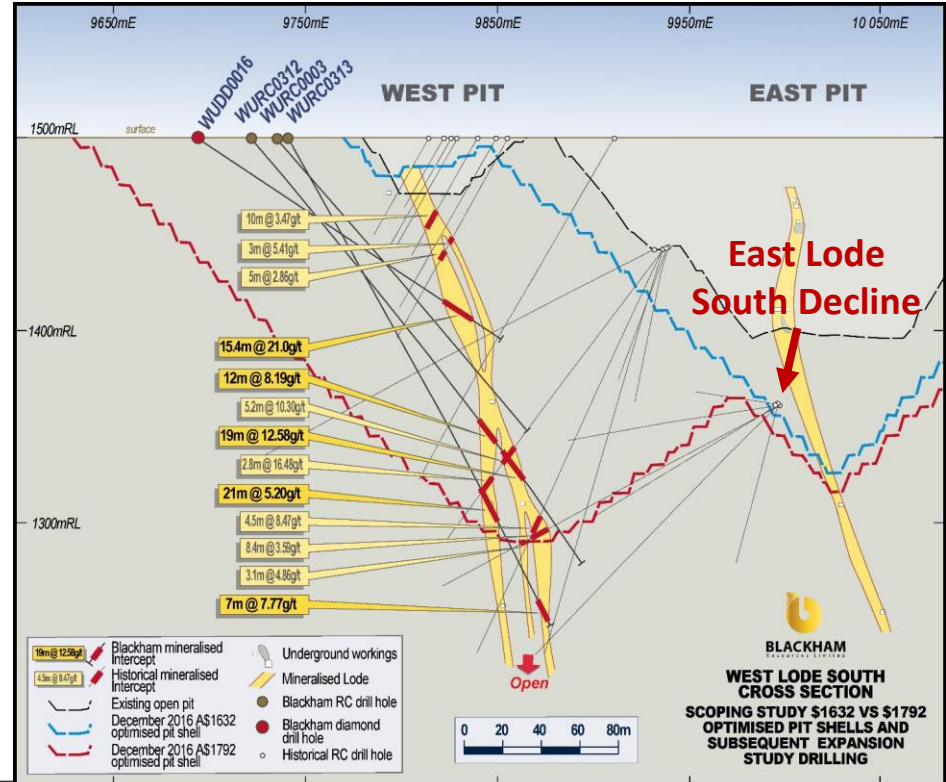
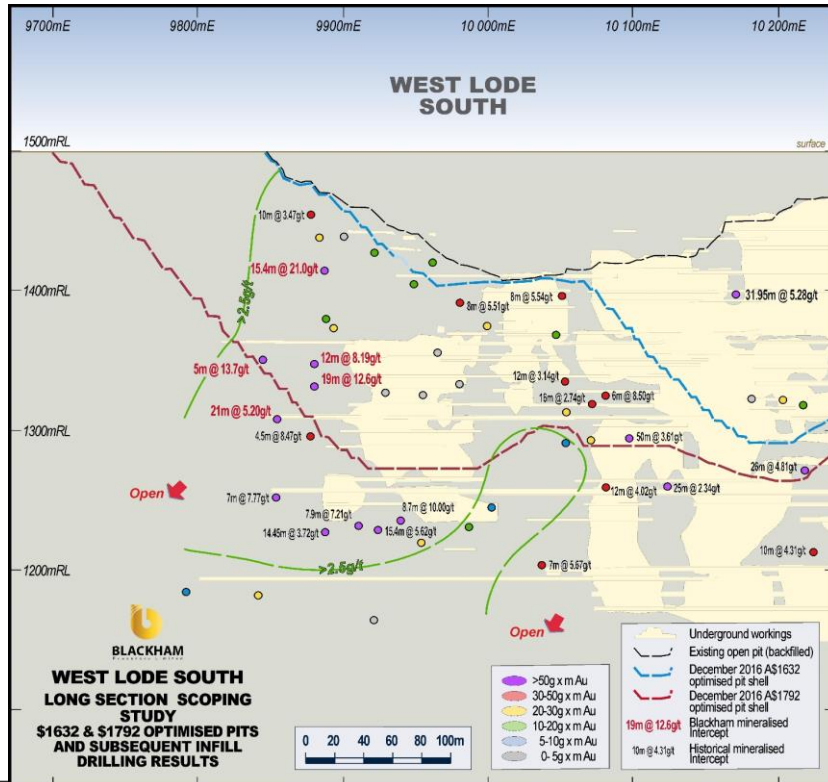


- Happy Jack access brings higher grade East & West Lodes earlier in the mining sequence
- Happy Jack drilling suggests likely to pick up additional ore whilst developing the decline extension
- Allows both West and East lodes to be completely drilled out prior to commencing mining

West Lode North – Happy Jack long section looking West showing orebody extensions

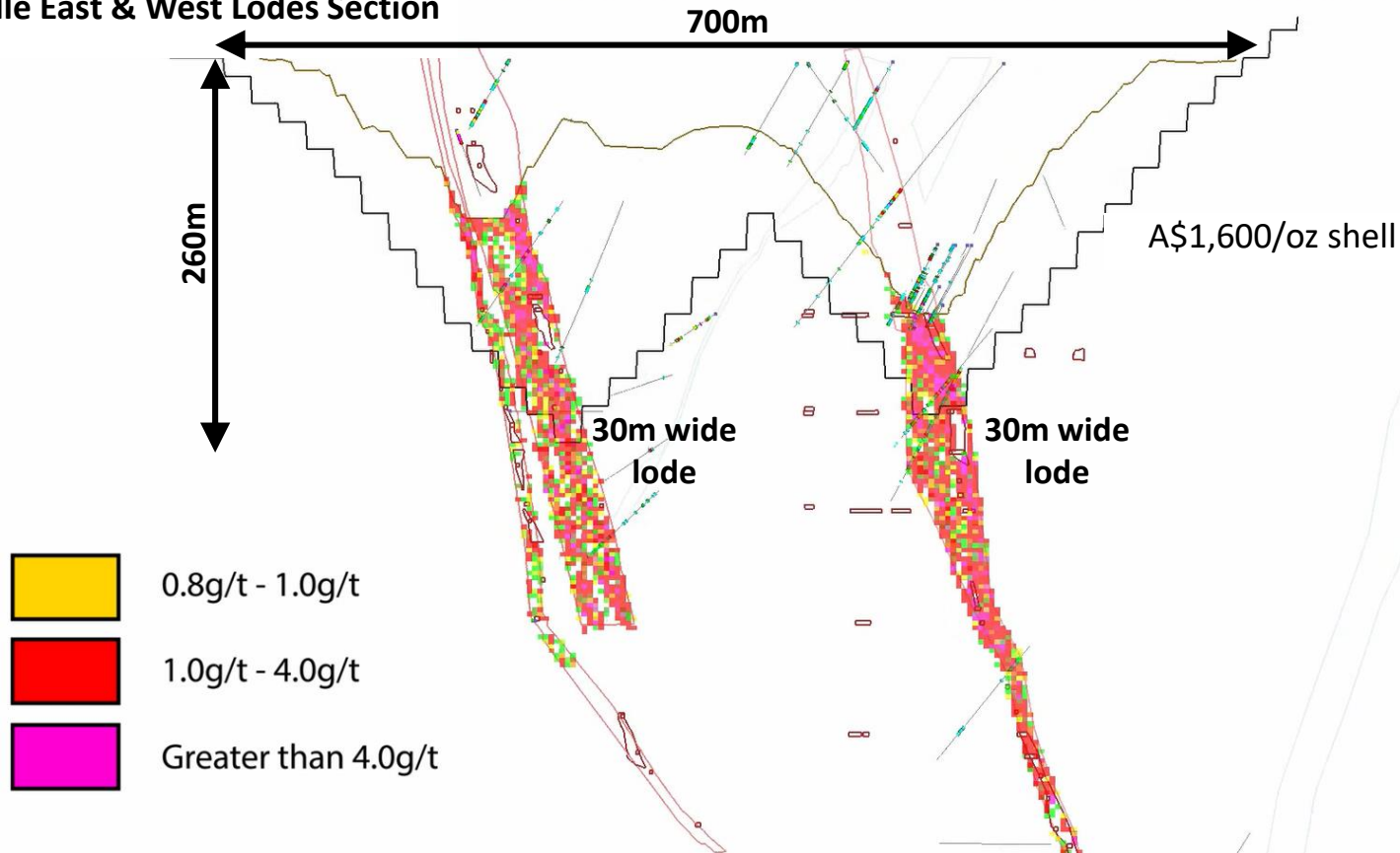
WEST LODGE SOUTH – high grade Resource extensions

- High grade mineralisation intersected at the southern end of West Lode
- Underground mining study underway - within 200m of existing East Lode South decline

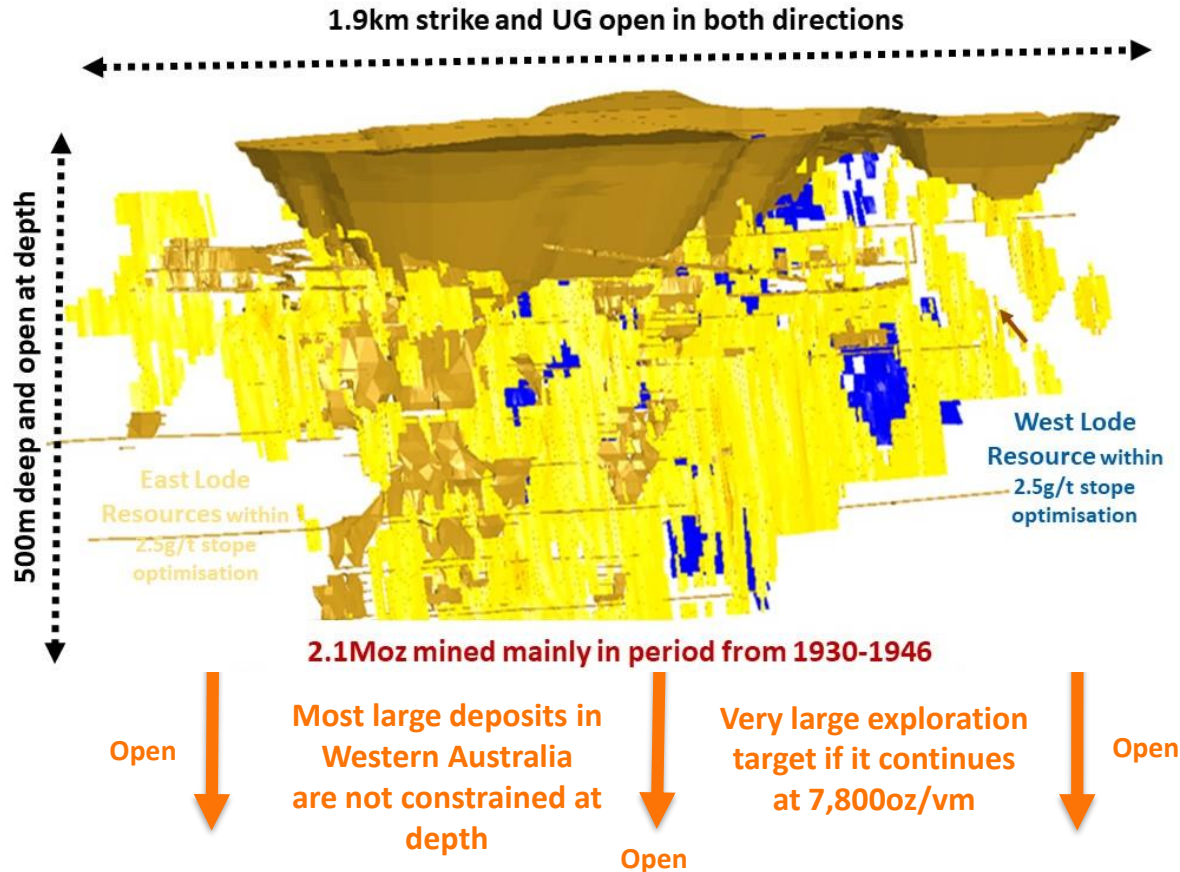


EAST WEST OPEN PIT – 650koz @ 2.8g/t Au

Middle East & West Lodes Section



EAST WEST UG MINE PLAN – EXPANSION OPPORTUNITY



**Resource 1.8Moz @
3.82g/t Au to 500m depth**

**3,600oz/vm
in to 500m after mined depletion**

**Gold Endowment =
3.9Moz in top 500m
~7,800oz/vm
prior to mine depletion**

**Wiluna north
underground extends to
1,200m depths**

STAGE 2 EXPANSION - Unlocking the potential for ~250,000ozpa gold production



Expansion increasing economic potential

Expansion PFS Highlights¹

Initial Gold Production	1.5Moz Au over initial 9 years
Open Pit Mining Inventory	15Mt @ 2.3g/t for 1.1Moz
UG Mining Inventory	4Mt @ 4.7g/t for 608koz
Expanded plant capacity	2.2 to 3.3Mtpa
Gold production average	207koz over first 6 years
LOM All in sustaining costs	A\$1,058/oz or US\$751/oz ⁽²⁾

- Current Mine plan: 20Mt @ 3.2g/t 2.1Moz Au
- 4Moz Resource outside the mine plan with significant underground Resource conversion potential
- **Feasibility advancing to sell a sulphide gold concentrate at very low capital cost as an interim step to sulphide processing**
- **Revised East West mine plan allows ramp up to ~250kozpa**

1) Refer to ASX released dated 30th August 2017

2) 1 AUD = 0.71 USD, 18 February 2019

A COMPELLING INVESTMENT OPPORTUNITY

- ✓ Free-milling production delivering operational cashflow
- ✓ 1.53Moz Reserves (26Mt @ 1.8g/t Au) with +10 year mine life ~ A\$38/reserve oz
- ✓ Low cost pathway to Initial 100-120kozpa gold production
- ✓ Significant opportunity to extend open pit mine life and convert large underground Resources into Reserves
- ✓ Outstanding long-term upside from dominant land position and 6.7Moz Resource (96Mt @ 2.2g/t Au – 58% indicated) with well defined geology
- ✓ Pathway to ~250kozpa with low operating cost and long mine life in a Tier 1 mining jurisdiction

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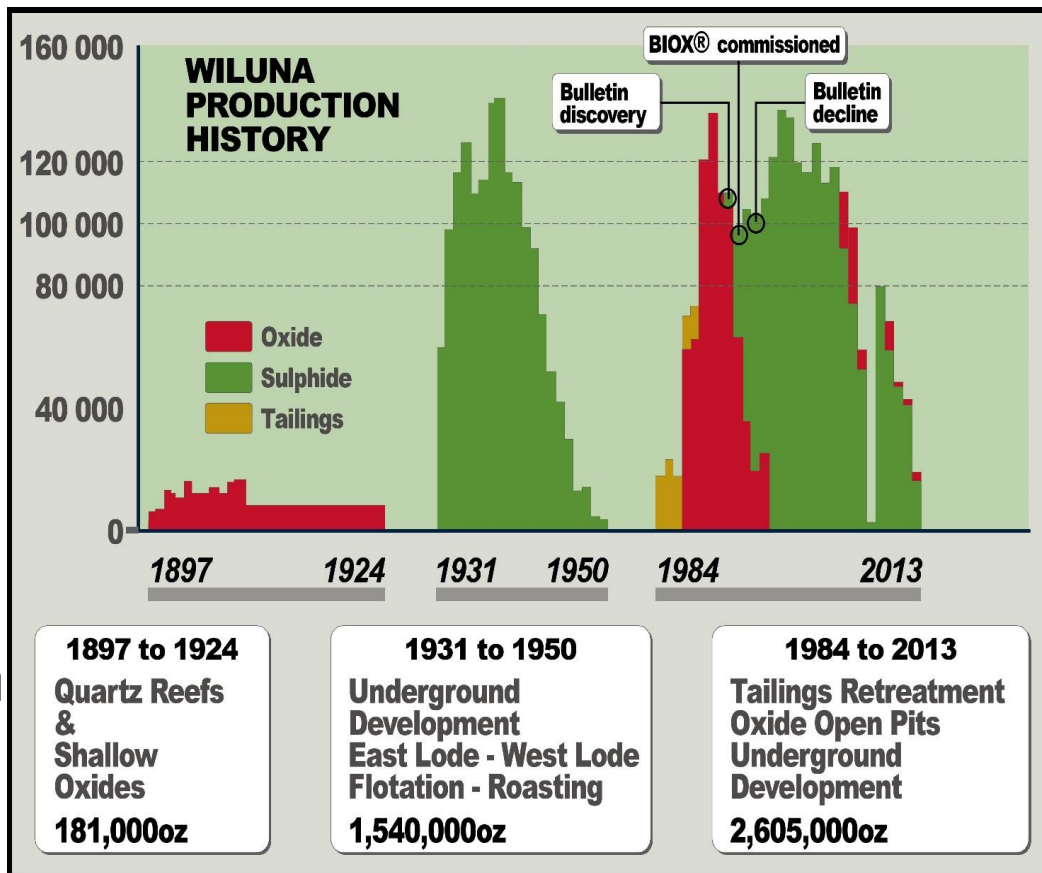
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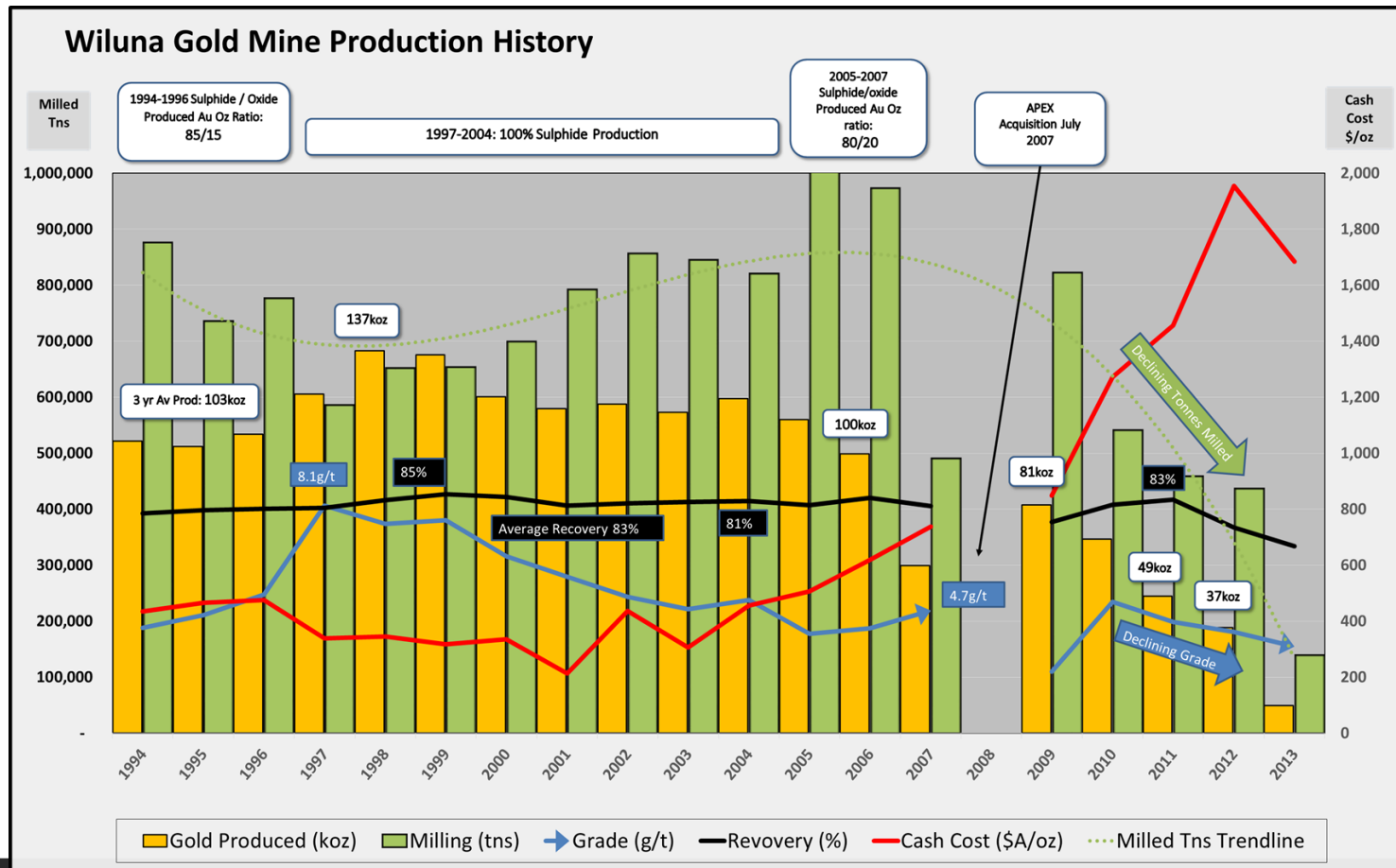


APPENDIX 1: WILUNA HISTORICAL PRODUCTION 4.4MOZS

- Long History of gold production +4.4Moz
- Historical oxide, quartz, tailings ~1.1Moz
 - 1897 – 1924 Oxide & Quartz
 - 1984 – 1993 Oxide & Tailings
- 1993: BIOX fitted to existing oxide plant
- 2007: Project broken up - Wiluna mine assets sold to Apex for \$29.5M
- 2007-2011: Apex spends \$71M on exploration
- Nov 2011: Blackham acquires Matilda Gold Project
- Mar 2014: Blackham acquires Wiluna Mine and plant
- Oct'16: Blackham free milling production commences



APPENDIX 2: HISTORY OF WILUNA BIOX® PROCESSING



APPENDIX 3: WILUNA MISCONCEPTIONS

- For 20 years prior to Blackham, owners of the Wiluna Gold Operation have pursued a high grade underground mining strategy with a short mine life
- Blackham has a medium grade strategy milling (~ 3Mtpa @ 3g/t) which is underwritten by a base load open pit Reserves and supplemented by the very large UG Resource.

History	Planned
Apex < 250,000oz Reserves	Reserves 1.5 Million Ounces Au With both UG and OP Reserves
1 UG operation	Large Open Pit Mining Operation with 3 x UG Operations from 5 existing declines
Only UG Operation with no open pits	Blended medium grade strategy open pit and multiple underground areas
High processing cost Milling circuit did not suit hard UG feed	New front end designed for scale and low cost milling
0.75-1.0Mtpa BIOX [®] and Oxide	2.2-3.3Mtpa total throughput capacity 1.8Mtpa Oxide and 1.5Mtpa sulphide plant
Over 20yrs production from Wiluna BIOX [®] averaged 83% recoveries	Optimising floatation recoveries to improve economics

APPENDIX 4: GOLD ORE RESERVES as at 30 June 2018

OPEN PIT RESERVES												
Mining Centre	Proved			Probable			Total 100%			Free Milling		
	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	0.03	1.7	2	1.23	1.7	68	1.26	1.7	70	1.26	1.7	70
Williamson				0.95	2.2	68	0.95	2.2	68	0.95	2.2	68
Wiluna				10.74	2.5	867	10.74	2.5	867	2.84	1.7	157
Stockpiles	0.54	0.8	15				0.54	0.8	15	0.54	0.8	15
OP Total	0.57	0.9	16	12.92	2.4	1,003	13.49	2.3	1,019	5.59	1.7	309
UNDERGROUND RESERVES												
Mining Centre	Proved			Probable			Total 100%			Free Milling		
	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				0.04	6.1	7	0.04	6.1	7	0.04	6.1	7
East West				0.72	5.0	115	0.72	5.0	115			
Bulletin ¹				1.03	4.6	155	1.03	4.6	155			
UG Total				1.79	4.8	277	1.79	4.8	277	0.04	6.1	7
Wiluna Tailings												
Mining Centre	Proved			Probable			Total 100%			Free Milling		
	Mt	g/t Au	Koz Au	Mt	g/t Au	Koz Au	Mt	g/t Au	Koz Au	Mt	g/t Au	Koz Au
Tailings Total				11.20	0.7	234	11.20	0.7	234	11.20	0.7	234
Total	0.57	0.9	16	25.91	1.8	1,514	26.48	1.8	1,530	16.82	1.0	550

1. Bulletin Underground includes Reserves from the Essex, Creek Shear and Lennon underground mining areas
2. Calculations have been rounded to the nearest 10,000 t of ore, 0.1 g/t Au grade and 1,000 oz. Au metal
3. See ASX announcement 31 October 2018 for further information

APPENDIX 5: GOLD RESOURCES – as at 30 June 2018

Mining Centre	OPEN PIT RESOURCES											
	Measured			Indicated			Inferred			Total 100%		
	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 ¹	0.1	1.14	4	7.0	1.44	323	3.6	1.30	151	10.7	1.39	477
Wiluna ²	-	-	-	15.4	2.38	1,181	3.1	3.21	324	18.6	2.52	1,505
Williamson ³	-	-	-	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
Mining Centre	UNDERGROUND RESOURCES											
	Measured			Indicated			Inferred			Total 100%		
	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 ¹	-	-	-	0.1	2.51	10	0.5	3.66	61	0.6	3.44	71
Wiluna ²	-	-	-	8.0	5.37	1,376	13.5	4.33	1,885	21.5	4.72	3,262
Williamson ³	-	-	-	-	-	-	0.3	2.61	23	0.3	2.61	23
Golden Age ⁴	0.02	6.80	4	0.1	7.66	24	0.5	3.77	63	0.6	4.46	91
Galaxy ⁵	-	-	-	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 Table above are rounded to two significant figures to reflect the relative uncertainty of the estimate.

See ASX announcement 13 September 2018 for further information

DISCLAIMERS AND IMPORTANT INFORMATION



This presentation 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.

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 mineralization 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 13th September 2018 continue to apply and have not materially changed.

The information contained in the report that relates to Ore Reserves for the Bulletin, Creek Shear, Essex and East-West underground mines at the Wiluna Gold Mine is based on information compiled or reviewed by Matthew Keenan. Mr Keenan confirmed that he has read and understood the requirements of the 2012 Edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (JORC Code 2012 JORC Edition). He is a Competent Person as defined by the JORC Code 2012 Edition, having more than five years' experience which is relevant to the style of mineralization and type of deposit described in the Report, and to the activity for which he is accepting responsibility. Mr Keenan is a Member of The Australasian Institute of Mining and Metallurgy, has reviewed the Report to which this consent statement applies and is a full time employee working for Entech Pty Ltd having been engaged by Blackham Resources Ltd to prepare the documentation for the Matilda Gold Project on which the Report is based, for the period ended 30 June 2018. He disclosed to the reporting company the full nature of the relationship between himself and the company, including any issue that could be perceived by investors as a conflict of interest. Mr Keenan verifies that the Report is based on and fairly and accurately reflects in the form and context in which it appears, the information in his supporting documentation relating to Ore Reserves.

The information contained in the report that relates to Ore Reserves for the Open Pits at the Matilda-Wiluna Gold Operation is based on information compiled or reviewed by Simon Hewson. Mr Hewson confirmed that he has read and understood the requirements of the 2012 Edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (JORC Code 2012 JORC Edition). He is a Competent Person as defined by the JORC Code 2012 Edition, having more than five years' experience which is relevant to the style of mineralization and type of deposit described in the Report, and to the activity for which he is accepting responsibility. Mr Hewson is a Member of The Australasian Institute of Mining and Metallurgy, has reviewed the Report to which this consent statement applies and is a full time employee of Blackham Resources Limited and having prepared the documentation for the Matilda/Wiluna Gold Project on which the Report is based, for the period ended 30 June 2018. He has disclosed to the reporting company the full nature of the relationship between himself and the company, including any issue that could be perceived by investors as a conflict of interest. Mr Hewson verifies that the Report is based on and fairly and accurately reflects in the form and context in which it appears, the information in his supporting documentation relating to Ore Reserves.

The information contained in the report that relates to Ore Reserves for Wiluna Tailings at the Matilda-Wiluna Gold Operation is based on information compiled or reviewed by Daryl Evans. Mr Evans confirmed that he has read and understood the requirements of the 2012 Edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (JORC Code 2012 JORC Edition). He is a Competent Person as defined by the JORC Code 2012 Edition, having more than five years' experience which is relevant to the style of mineralization and type of deposit described in the Report, and to the activity for which he is accepting responsibility. Mr Evans is a Fellow of The Australasian Institute of Mining and Metallurgy, has reviewed the Report to which this consent statement applies and is a full time employee working for Independent Metallurgical Operations Pty Ltd having been engaged by Blackham Resources Ltd to prepare/review the documentation for the Matilda/Wiluna Gold Project on which the Report is based, for the period ended 30 June 2018. He disclosed to the reporting company the full nature of the relationship between himself and the company, including any issue that could be perceived by investors as a conflict of interest. Mr Evans verifies that the Report is based on and fairly and accurately reflects in the form and context in which it appears, the information in his supporting documentation relating to Ore Reserves.