



**Breakaway  
Research**

May 2012

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### Company Information

ASX Code	BLK
Share Price	A\$0.20
Ord Shares	47.8m
Options	7.0m
<b>Market Cap</b>	<b>A\$11.4m</b>
Cash (Mar 12)	A\$0.4m
Total Debt	A\$0m
<b>Enterprise Value</b>	<b>A\$9.1m</b>

### Directors

Chairman	Brett Smith
Managing Director	Bryan Dixon
Executive Director	Greg Miles
Non-Executive Director	Alan Thom

### Substantial Share Holders

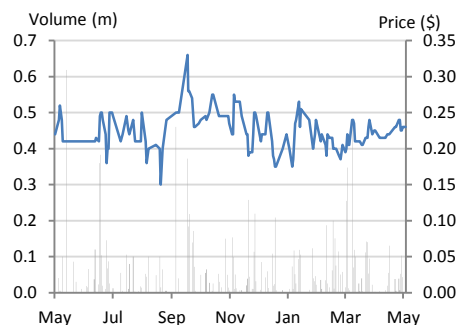
HSBC	16.7%
Kingsreef Pty Ltd	10.6%
JP Morgan Nom's	5.5%
Widerange	4.4%
Deuk Sung Bae	4.0%

Source: Bloomberg

### Company Details

Address	Level 2, 38 Richardson Street West Perth WA 6005
Phone	+618 9322 6418
Web	www.blackhamresources.com

### 1 Year Price Chart



Source: Bloomberg

# Blackham Resources (BLK)

*An emerging gold story in a  
proven mining district*

**Recommendation: Speculative BUY**

### Key Points

- **Recent acquisition of unloved and forgotten gold project**
- **Inferred Resource of 12.5Mt @ 1.9g/t Au for 757,000oz of gold**
- **Large widths of mineralisation identified in recent drill campaign**
- **Targeting +1Moz resource in the near term**
- **Further drill campaigns to target shallow mineralisation**
- **Up to A\$9.15m of funding secured to advance the Matilda project**
- **Enterprise value of A\$9m substantially undervalues company**

*The Matilda gold project already hosts a sizable resource however significant exploration potential still exists along strike and at depth of the known deposits and resource upgrades are likely. Blackham has potential to develop sufficient resources to justify its own operation or for early cash flow via the toll treatment of ore through the nearby and underutilised Wiluna gold plant, providing additional funding for exploration and development.*

### Company Overview

Blackham Resources (ASX: BLK) recently acquired the Matilda gold project located in the Wiluna region of W.A. The projects assets include previously operating mines, some infrastructure and a JORC resource of 12.5Mt @ 1.9g/t Au for 757,000oz of gold, made up from four nearby deposits.

Blackham has a near term exploration target of +1Moz Au with significant exploration potential at depth and along strike of the existing deposits. A recent 4,000m RC drill campaign confirmed the prospectivity of the targets by intersecting wide zones of 'ore grade' mineralisation. Further opportunity exists to identify additional deposits hosted along 40km of strike over the Wiluna Mine Sequence and 10km strike along the Coles Find Mine Sequence.

The Wiluna plant, owned and operated by Apex Minerals, is located in close proximity to the Matilda project and has both oxide and sulphide treatment circuits. Potential exists to toll treat oxide ore through the plant providing Apex with additional revenue and operational efficiencies (as the plant is underutilised) while Blackham has the opportunity for early cash flow to fund additional exploration and development costs.

Blackham is also evaluating the potential of coal export and a Coal to Liquids facility to process lignite from the 1.4Bt Scaddan and Zanthus deposits located near the port of Esperance. The project is well serviced by infrastructure and may warrant a standalone mining operation for the export market should an appropriate lignite market be identified.



## Investment Review

In November 2011, Blackham entered into an agreement to purchase Kimba Resources (then owners of the Matilda gold project) under the following terms:

*Matilda purchased on very favourable terms*

- Cash of A\$600,000 – (paid)
- 2,400,000 fully paid shares (paid – issued at a share price of 19c)
- A\$150,000 cash on delineation of a 500,000oz gold JORC resource (ex-Williamson)
- A\$150,000 cash on delineation of a 750,000oz gold JORC resource (ex-Williamson)
- Blackham to pay A\$500,000 on first gold pour to previous owners
- A\$250,000 cash upon production of 50,000 ounces of gold
- A royalty of 1% net operating profit on nickel production profits

Blackham is also liable for the rehabilitation of the project and is required to pay A\$2.25m in environmental bonds within the next six months.

When the project was purchased, it came with access to a substantial data set of over 39,000 drill holes and 371 technical reports which were conducted by numerous earlier operators.

Breakaway is impressed with management's ability to purchase the project on such favourable terms considering a JORC resource has already been confirmed 6 months after acquisition (**12.5Mt @ 1.9g/t Au for 757,000oz gold**) and the significant exploration potential that exists.

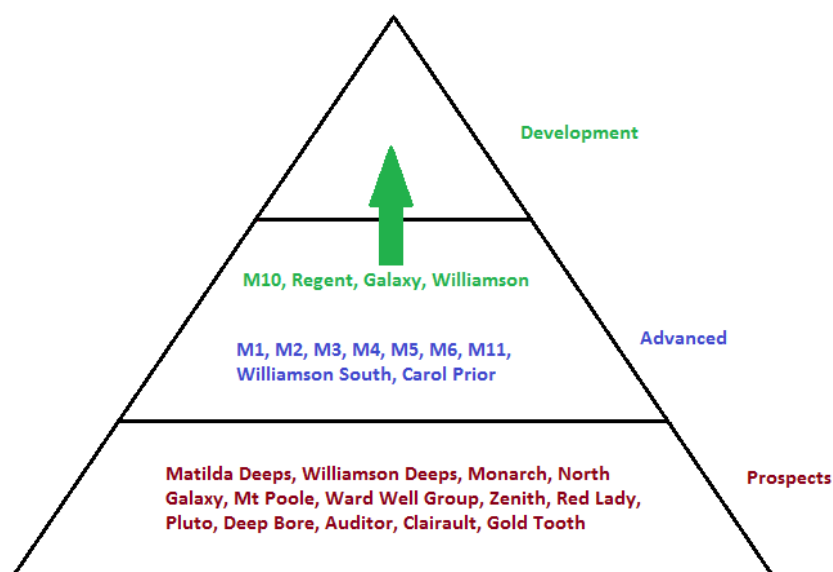
### Development

*Early toll treating of ore a possibility*

Blackham is currently reviewing the technical data inherited with the Matilda project and is remodelling the known mineralisation. Further drilling campaigns are then planned to build on the resource base with a view to reach critical mass for a standalone operation, while the neighbouring Wiluna gold plant allows for potential early revenue from the toll treatment of ore.

### Matilda Project Pipeline

*Significant development pipeline*



Source: Breakaway Research and Blackham Resources



## Exploration Targets

*Significant exploration potential along strike and at depth*

Previous operators of the Matilda project were primarily targeting shallow oxide mineralisation from the various deposits within the tenure and failed to adequately test the depth (and strike) extensions of the known deposits. Since Blackham took control of the project, ~4,000m (40 RC holes) have been drilled in the vicinity and wide intercepts of ore grade mineralisation have been intersected. Breakaway is encouraged by the recent results as they support Blackham's belief that previous mining has only scratched the surface of a large mineralised system.

In the near term, Blackham intend to continue drilling, initially targeting shallow oxide mineralisation. Deeper drilling campaigns will then likely follow, targeting deeper high grade extensions to the known deposits.

## Funding Agreement

*A\$9.15 of funding secured*

In April 2012, Blackham secured A\$9.15m to advance the Matilda gold project. A\$1.025M was raised via a share placement to sophisticated investors @ 21c/share while the remaining A\$8.125M was sourced from a New York based 'Special Opportunities Fund' managed by The Lind Partners.

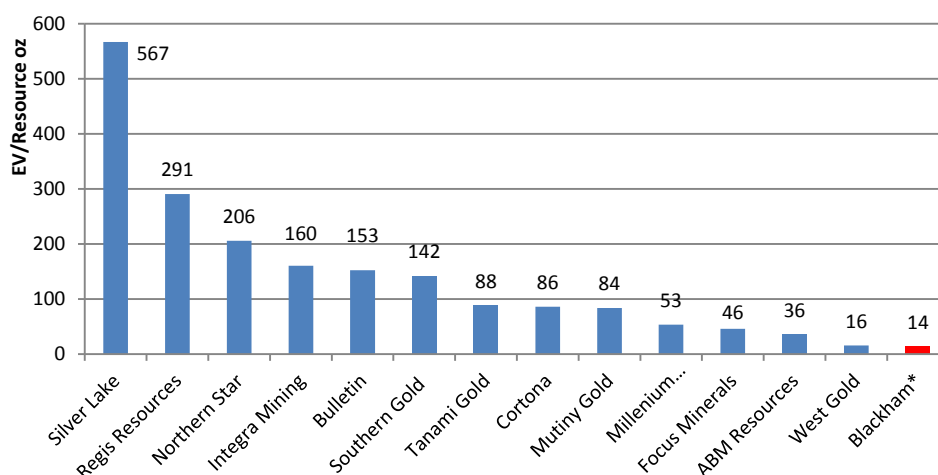
Under the terms of the agreement, Lind will invest between A\$75,000 and A\$225,000 in exchange for the equivalent BLK shares, on a monthly basis over the next three years. The shares will be issued at 90% of the prior 5 day VWAP.

## Peer Analysis

The enterprise value/resource ounce chart below highlights the relative value the market attributes per resource ounce to various Australian based gold projects and operations

### Enterprise Value per resource ounce peer comparison:

*Substantially undervalued relative to its peers*



*\*Assumes zero value for the companies coal assets  
Source: Breakaway Research*

## Breakaway's View

Blackham appears cheap relative to its peers and has strong potential for a re-rating as it increases its resources with further drilling campaigns. With a sizable resource already in place and highly prospective and well defined targets, Breakaway believes Blackham Resources represents a significant value proposition for investors.



## Project Review

### Matilda Gold Project

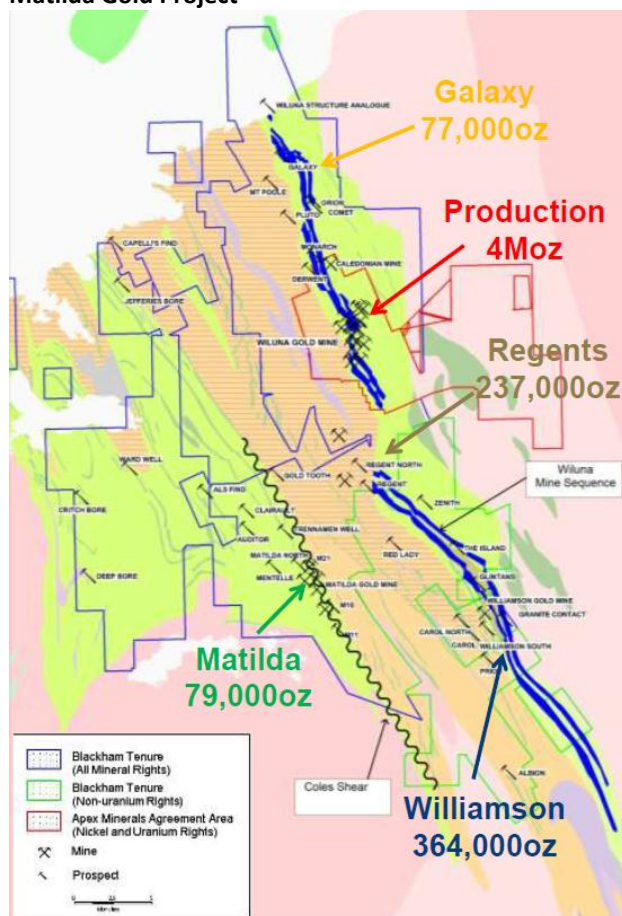
Near-term production opportunities and significant exploration potential

The Matilda gold project encompasses 18 mining leases, 5 retention licences, 12 exploration licences and 24 prospecting licences, covering an area of over 600km<sup>2</sup>. The project tenure surrounds the operating Wiluna Gold Mine, owned by Apex Minerals, and covers 40km of strike along the Wiluna Mine sequence which has produced over 4Moz of gold (from just a 5km section). In addition, the project tenure also includes sections of the highly prospective Coles Shear which hosts the Matilda deposit.

### Matilda Gold Project

600km<sup>2</sup> of tenure

Four deposits make up current resource



Source: Blackham Resources

12.5Mt @ 1.9g/t Au for 757,000oz of gold

The Matilda project hosts the Matilda and Williamson gold mines, as well as the Regent and Galaxy gold deposits, which together have a combined resource of 12.5Mt @ 1.9g/t Au for 757,000oz of gold.

### Matilda Gold Project – Current JORC resources

Deposit	Tonnes (t)	Gold (g/t)	Contained gold (oz)	Percentage of total (%)
Williamson	6,001,000	1.9	364,000	48
Regent	3,505,000	2.1	237,000	31
Matilda	2,067,000	1.2	79,000	10
Galaxy	884,000	2.7	77,000	10
<b>Total</b>	<b>12,457,000</b>	<b>1.9</b>	<b>757,000</b>	<b>100</b>

Source: Blackham Resources



## Williamson Deposit

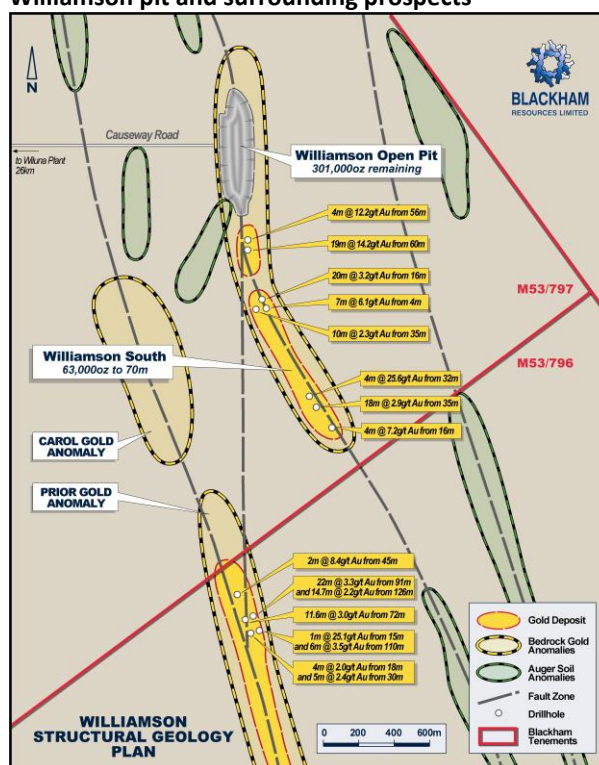
### Large tonnage exploration potential at depth and along strike

The Williamson deposit is situated on the Wiluna Mine Sequence, 26km south of the Wiluna gold plant. In 2005/6, previous operators, Agincourt, mined 664,000t @ 1.98g/t Au for 42,000oz of gold from an open pit operation.

The open pit has a strike length of 700m and an average depth of 80m with a 'remaining' inferred resource of **4.92Mt @ 1.9g/t Au for 301,000oz of gold**.

*Shallow mineralisation identified along strike*

### Williamson pit and surrounding prospects



Source: Blackham Resources

There is significant exploration potential below the base of Williamson open pit with previous drilling results highlighted in the table below:

*Significant potential at depth*

### Historical Drill Intersections – Williamson Deposit

26m @ 6.1g/t Au from 128m	4m @ 5.9g/t Au from 121m
10m @ 5.8g/t Au from 155m	4m @ 11.6g/t Au from 128m
6m @ 5.8g/t Au from 170m	4m @ 231g/t Au
3m @ 40.1g/t Au from 117m	70m @ 2.38g/t Au

Source: Blackham Resources

Shallow air core drilling (~70m) at **Williamson South** has delineated an additional 1.5km gold zone of near surface, oxide (free milling) mineralisation with a JORC resource of 1.1Mt @ 1.9g/t for 63,000oz of gold. Additional opportunity exists to extend this resource along strike and at depth.

*Carroll Prior requires further drilling for JORC resource*

The **Carroll Prior** prospect lies ~1km south west of Williamson South and appears to be a large gold mineralised shear zone extending over a 4km strike length. Previous drilling campaigns have intersected broad zones of 'ore grade' gold mineralisation however further drilling is required to define a JORC resource. Blackham is currently in the process of updating its database to capture all the historical drilling before planning further drill campaigns and completing resource estimates.





## Matilda Deposit

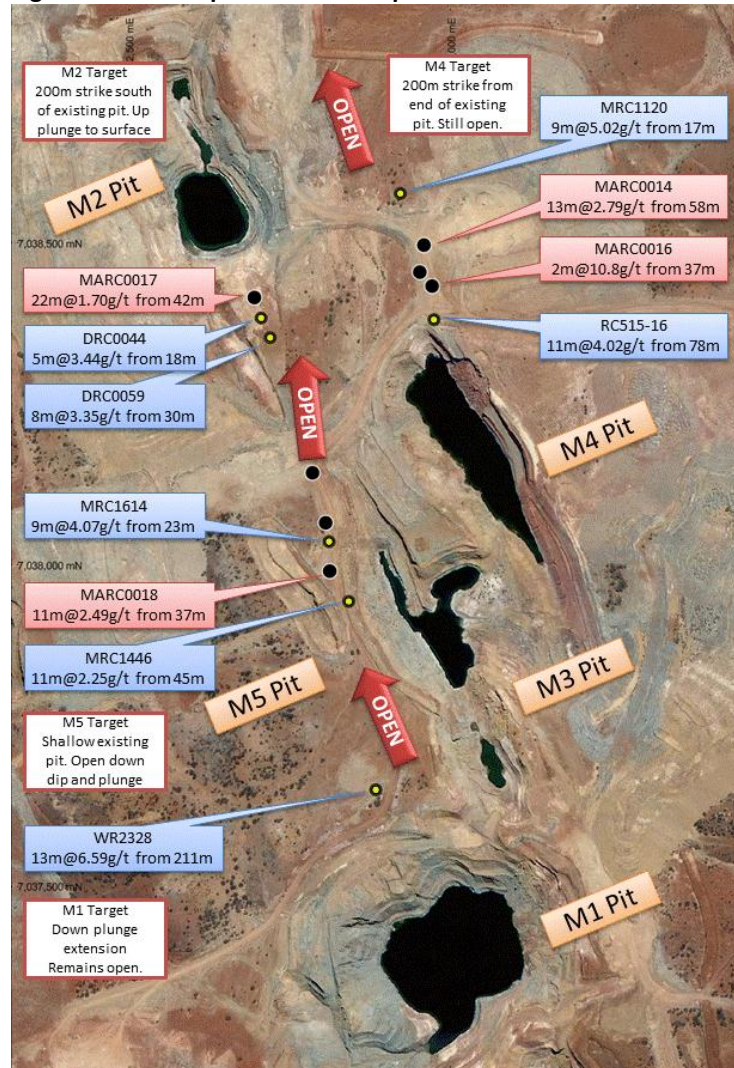
Numerous open pits – highly prospective, near term development opportunity

The Matilda mine is located 19km from the Wiluna plant and is connected via existing haul roads. A total of 163,000oz of gold was previously mined by Chevron and Eon during 1986-92 from seven shallow pits which targeted oxide material only.

Since Blackham took control of the project, ~4,000m (40 RC holes) have been completed targeting shallow extensions of mineralisation adjacent to several open pits. The diagram below highlights significant intercepts from current and historical drilling which falls outside of the current 2Mt @ 1.2g/t Au for 79,000oz gold resource.

### Significant intercepts – Matilda Deposit

Drilling identifies broad zones of shallow mineralisation



Source: Blackham Resources

Highly prospective tenure

The M2, M4 and M5 open pits were last mined in 1992 at which point operations were (suddenly) suspended. As a consequence to the abrupt end in mining activity, Blackham believe extensive shallow oxide gold mineralisation still exists along strike and at the base of the open pits. The recent drilling campaign has intersected significant widths of ore grade mineralisation which appears to support Blackham's belief that previous mining has only scratched the surface of a large mineralised system.

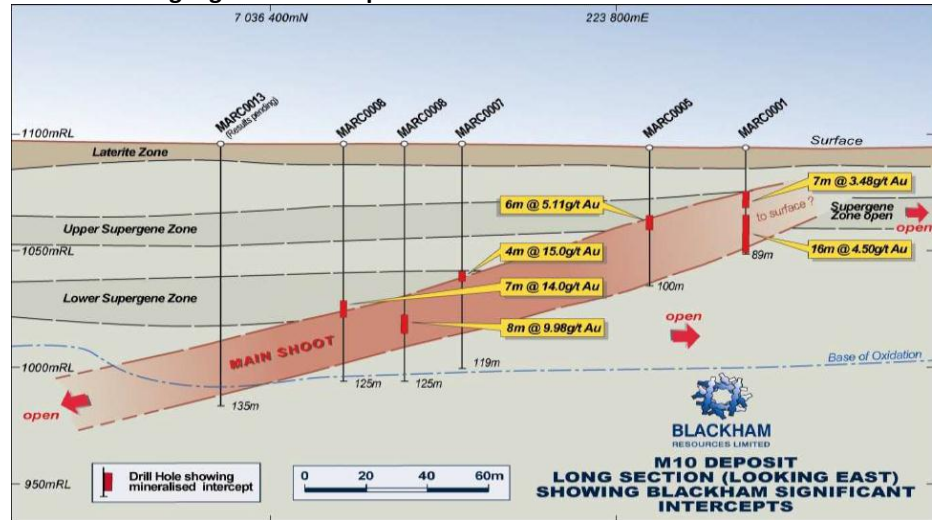
*M10 requires further drilling to define JORC resource*

An additional short term opportunity also exists at the nearby **M10 deposit**, which has never been mined. As part of the recent 40,000 drilling campaign, Blackham targeted shallow open pitable oxide mineralisation above 120m in depth. Drilling intersected broad zones of shallow mineralisation (highlighted in the table below) however further drilling is required before a maiden JORC resource can be announced.

<b>8m @ 9.98g/t Au</b> from 107m	<b>4m @ 15g/t Au</b> from 58m
<b>7m @ 14.0g/t Au</b> from 74m	<b>6m @ 5.11g/t Au</b> from 41m
<b>7m @ 3.48g/t Au</b> from 14m	<b>2m @ 8.73g/t Au</b> from 29m
<b>16m @ 4.50g/t Au</b> from 34m	<b>3m @ 11.4g/t Au</b> from 73m

Source: Blackham Resources

**Drill section highlights – M10 deposit**



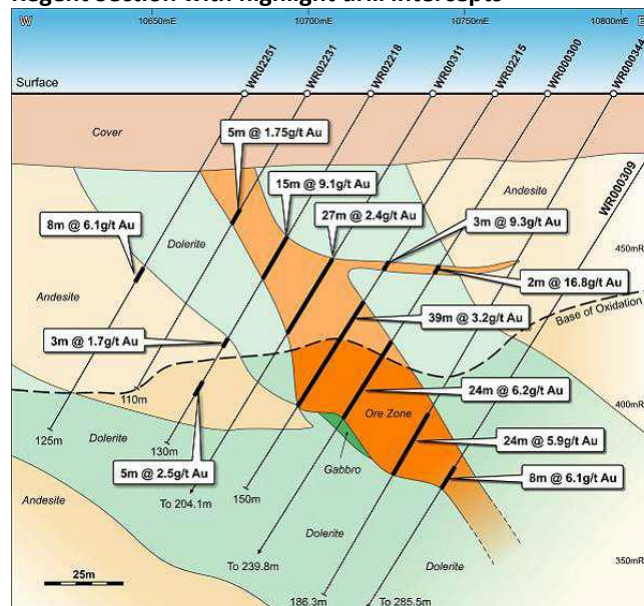
Source: Blackham Resources

**The Regent Deposit**

Blackham recently applied for a mining lease application over the 100% owned Regent project, located 9km south of the Wiluna Gold plant. The Regent deposit currently has a JORC inferred resource of **3.5Mt @ 2.1g/t Au for 237,000oz of gold** and is hosted within the ‘Wiluna Mine Sequence’ in a similar setting to that of the 4Moz Wiluna Mine owned and operated by Apex.

*Large proportion of resource is oxide material*

**Regent Section with highlight drill intercepts**



Source: Blackham Resources

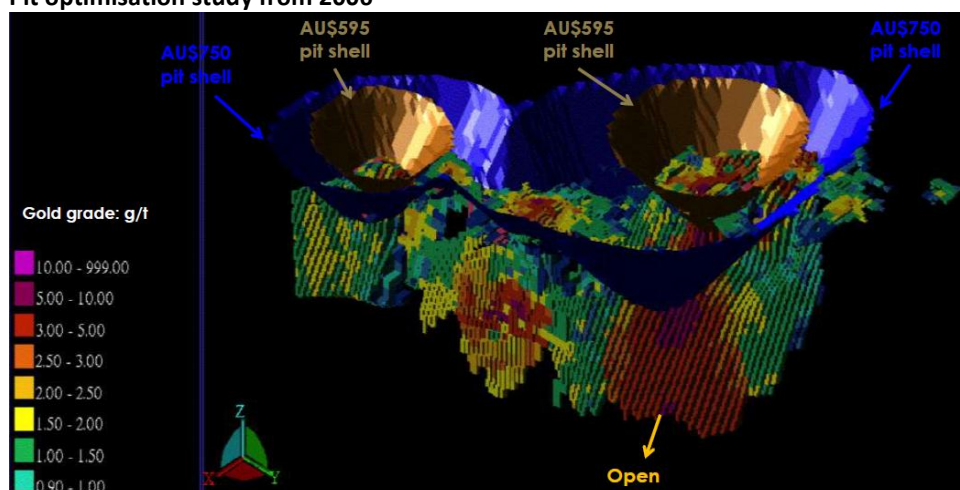


In 2006, the previous owners of Regent assessed the economics of mining the deposit by open pit methods and conducted pit optimisation studies using a US\$595/oz and US\$750/oz gold price. Blackham now plans to re-assess the economics of the open pit using the current gold prices and cost parameters.

*Pit optimisation studies completed at A\$595/oz and \$750/oz*

*Economics will be re-assessed at current gold prices*

### Pit optimisation study from 2006



Source: Blackham Resources

*Possible underground operation*

There is significant opportunity to increase the resource at depth with high grade, broad intersections including **24m @ 6.2g/t** from 96m, **24m @ 5.9g/t** from 119m and **8m @ 6.1g/t** from 141m with mineralisation open at depth. With these deeper high grade intercepts, Blackham is also exploring the potential for an underground mining operation however further deep drilling is necessary to better understand the extent of the mineralisation down plunge.

*Shallow high grade deposit likely to be early mover for development*

### The Galaxy Deposit

**Small, high grade deposit: Likely to be an early mover in the development strategy**

The Galaxy deposit is located north and along strike of the Wiluna Gold Mine where a small JORC resource of **0.88Mt @ 2.7g/t Au for 77,000oz Au** has already been defined. Exploration potential remains strong with numerous Wiluna mine 'lookalike' targets identified and little to no systematic exploration ever undertaken. The already defined resource is likely to be one of the first deposits to be mined in Blackham's development strategy due to the shallow 'open pitable' and higher grade nature of the deposit.

### Nickel Exploration

**Prospective tenure – limited exploration – potential to advance through JV**

*Seeking JV interest for Nickel exploration*

Blackham's exploration tenure lies at the northern end of a well known nickel belt. Since Blackham took control of the tenure, nickel exploration has taken a back seat to the priority Matilda gold project. Blackham inherited a low grade nickel laterite deposit (80.5Mt @ 0.77% Ni) however the potential for deeper nickel sulphide mineralisation is yet to be fully explored.

As a non-priority project, Blackham are exploring the opportunity of a joint venture arrangement, however nothing has yet been formalised.





## The Wiluna Gold Plant

*Wiluna plant treats both oxide and sulphide ore*

The Apex owned Wiluna gold processing plant is located in close proximity to all of Blackham's deposits with the Williamson and the Matilda open pits already connected to the plant with existing haul roads. The plant has the flexibility to treat both refractory and free milling ore through two different circuits, and when both circuits are in full operation plant capacity is ~1.1Mtpa.

*Plant is underutilised in the oxide circuit*

Apex ore, currently being treated at Wiluna, is predominantly of a refractory nature and as such, the plant has excess capacity in the oxide circuit. Potential exists for Blackham to fill this spare capacity which, on face value, appears to be a 'win-win' situation. Apex would benefit from enhanced plant operational performance whilst also receiving a toll treatment charge from Blackham, while Blackham would have the opportunity to realise early cash flow, providing the company with additional funding for further exploration.

### Breakaway's View

Breakaway is encouraged by the level of mineralisation already delineated at the Matilda Gold Project, as well as the potential that is yet to be tested.

*Significant exploration potential*

At Williamson, significant exploration potential exists at depth, below the current floor of the open pit. An infill and extensional drilling campaign will be required to upgrade the current resource to JORC 'mining reserves' and to test the extent of the deep mineralisation, before any feasibility studies can be undertaken to assess how best to extract the mineralised zones (via possible open pit cut back or underground mining). With high grade, deep mineralisation already intersected below the pit floor, infill (and extensional) drill programs are likely to deliver further good news to the market.

The exploration potential at the Matilda deposit should not be underestimated. The recent drilling campaign undertaken by Blackham intersected **large widths** of shallow oxide and deeper primary ore grade mineralisation. Further drilling campaigns in the vicinity are likely to yield further encouraging results and provide impetus for a market re-rating.

*Early potential for cash flow through toll treatment*

The nearby Apex owned Wiluna gold plant provides Blackham a real opportunity to realise early cash flow. Both the Williamson and Matilda deposits are within granted mining leases and have existing haul roads linking the deposits to the plant. Accordingly, relatively small capex is required to become operational.

Breakaway notes that the broad zones of high grade mineralisation identified below the Williamson open pit is predominantly primary ore. Blackham has indicated feasibility studies carried out by the previous mine operators confirm the primary ore is free milling.



## **Scaddan and Zanthus Coal (Lignite) Projects**

**Scaddan (Blackham 70%, Wesfarmers 30%), Zanthus (Blackham 100%)**

The Scaddan and Zanthus lignite deposits are located near Esperance in WA. The most advanced project is Scaddan, which is being assessed for the potential to export lignite and for a Coal to Liquids (CTL) facility. Theoretically, a CTL facility could produce a total of 870 million barrels oil equivalent, consisting mainly of a clean diesel. The Scaddan Energy Project is surrounded by complementary infrastructure, being ~60 kilometres north of the major port of Esperance, 10 kilometres east of Esperance to Kalgoorlie highway, a gas pipeline and railway line.

*1.4Bt lignite deposit close to infrastructure*

### **Scaddan and Zanthus Deposit locations**



Source: Blackham Resources

*Coal to liquids potential*

In June 2011, Blackham announced an upgrade to its Scaddan coal resource raising its total attributable interest to 1.1 billion tonnes of lignite.

Project	JORC Resource	Tonnes (M)	BLK attributable tonnes (M)
<b>Scaddan</b> (BLK 70%)	Measured	80	50
	Indicated	490	340
	Inferred	470	340
<b>Zanthus</b>	Inferred	350	350
<b>Total</b>		<b>1,390</b>	<b>1,080</b>

Source: Blackham Resources

In November 2011, Blackham completed a scoping study, assessing the economics for the export of lignite through the Port of Esperance. The study assumed an 8Mtpa operation with operating costs of US\$23/t. The lignite price has been assumed at A\$35/t, escalating to \$96/t (in nominal terms) by 2044. Principle assumptions are based on current lignite prices and adjusted for energy content, impurities and transport.

*Low mining costs*

The port is currently planning a 20Mtpa expansion with the state government announcing a \$120 million upgrade of the Esperance Port Access Corridor. Blackham is in negotiations with the port and infrastructure providers with a view to being export ready when the upgrade is complete.

### **Breakaway's View**

Whilst the economics of this lignite project are theoretically attractive, Blackham's biggest challenge will be in identifying an end user for this vast deposit to support the high capital cost of development.

*A\$ 15m offer rejected*

Late in 2011, Blackham received a A\$15m cash offer for its 70% interest in Scaddan which was later rejected by the Blackham board. Blackham is confident it can deliver significantly more value by developing the projects over the longer term.



## Directors

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**Chairman**  
**Brett Smith**

**Brett Smith** is a Geologist and has been involved in mineral exploration, project development and mining for more than 25 years. He has worked in the exploration industry for a wide range of commodities including gold, base metals and uranium. Mr Smith is currently Managing Director of Corazon Mining Limited.

**Managing Director**  
**Bryan Dixon**

**Bryan Dixon** has substantial experience in the mining sector and in the management of listed public companies. Previously, he has been employed by KPMG, Resolute Samantha Limited, Société Générale and Archipelago Resources Plc. Bryan also holds a Non-executive director role with Hodges Resources Limited and Midwinter Resources NL. Mr Dixon is a Chartered Accountant and brings project acquisition, development, financing and corporate skills to the Company. Mr Dixon is also Chairman of the Scaddan Energy JV Committee.

**Executive Director**  
**Greg Miles**

**Greg Miles** has had a successful career in mineral exploration and development of over 18 years in numerous commodities and mineral provinces. Mr Miles is currently Non-Executive Director of Cove Resources Limited and recently listed Cassini Resources Limited. Previously, Mr Miles was also involved with the discovery and development of the 40Mt Mount Caudan Iron Ore Deposit, Parker Range Project (Cazaly) and exploration and development of gold resources at West Kalgoorlie (now owned by Phoenix).

**Non-Executive Director**  
**Alan Thom**

**Alan Thom** is a mining engineer with extensive experience as a senior manager and executive working in Australia, United Kingdom, Africa and Bangladesh. His experience covers a range of commodities including gold, nickel, uranium and all types of coal. Mr Thom has managed a number of definitive and bankable feasibility studies for significant resource projects and has worked alongside major international investment banks. Mr Thom also holds a Western Australian First Class Mine Managers Certificate and previously held statutory mine management positions for Newmont in both underground and open pit operations. Mr. Thom currently consults to a number of resource companies on business and project development.

*\*Director CV's taken from company presentations*



### **Analyst Verification**

We, Grant Craighhead and Andrew McLeod, as the Research Analysts, hereby certify that the views expressed in this research accurately reflect our personal views about the subject securities or issuers and no part of analyst compensation is directly or indirectly related to the inclusion of specific recommendations or views in this research.

### **Disclosure**

Breakaway Investment Group (AFSL 290093) may receive corporate advisory fees, consultancy fees and commissions on sale and purchase of the shares of Blackham Resources and may hold direct and indirect shares in the company. It has also received a commission on the preparation of this research note.

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