



**Breakaway  
Research**

March 2014

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### Company Information

ASX Code	AOU
Share Price	A\$0.13
Ord Shares	59.5m
<b>Market Cap A\$</b>	<b>A\$8.0m</b>
Cash (31 Dec 13)	A\$0.5m
Total Debt	A\$0m
<b>Enterprise Value</b>	<b>A\$7.5m</b>

### Directors & Management

Non-Executive Chairman	Glenn Whiddon
Managing Director	Dean Cunningham
Non-Executive Director	Jan Nelson

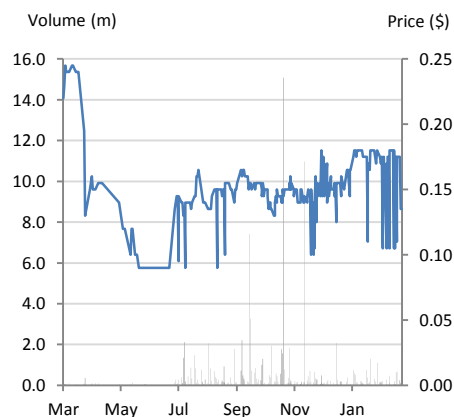
### Substantial Share Holders

Pan African Resources	42.0%
Dean Cunningham	2.4%
Matthew Norton	0.7%
<b>Top 20</b>	<b>53.1%</b>

### Company Details

Address	Office J, Level 2, 1139 Hay St West Perth, WA, 6005
Phone	+618 9486 4699
Web	www.aurochminerals.com

### 1 Year Price Chart



# Auroch Minerals (AOU)

*Steadily advancing towards production*

**Recommendation: Speculative BUY**

### Key Points

- **JORC Resource of 48.9Mt @ 1.79g/t Au for 2.82Moz with additional exploration potential**
- **3 Stage production strategy envisages treating of non-refractory ore first, providing cash flow for large scale refractory operation**
- **Stage 1 targeting production of ~21kozpa @ US\$808/oz cash operating costs**
- **DFS underway and scheduled for completion by Q3 2014**
- **South African 'Department of Trade and Industry' provides grant to fund ~33% of DFS cost**
- **Auroch to buy back PAR's 25M shares and cancel deferred consideration shares**
- **Highly leveraged to positive news flow - EV of ~A\$6m**

*Auroch Minerals Manica Gold Project hosts a significant JORC Resource of 48.9Mt @ 1.79g/t Au for 2.82Moz. The company now has put in place a clear 3 stage strategy which envisages mining the non-refractory component of the ore body first, providing the framework and cash flow necessary to advance the larger and potentially more lucrative refractory project. A DFS is underway with the company targeting first production as early as Q4 2015.*

### Investment Thesis

The Manica project, located in Mozambique, hosts a current JORC Resource of ~48.9Mt @ 1.79g/t Au for ~3Moz of gold at four nearby deposits. Approximately ~90% of the resource is hosted within sulphide ore zones (refractory) while the remaining ~10% of the resource (~258koz) is hosted within free milling, transitional or oxide (non-refractory) ore zones. It is these non-refractory ore zones which provide a near term path to production.

Auroch recently updated the 2013 Scoping Study to reflect a new 3 Stage strategy which envisages initial mining and processing of the non-refractory ore zones at various satellite deposits, followed by an expansion to process the larger and potentially more lucrative refractory ore zones.

Manica is located on a 25 year mining lease and already well serviced by local infrastructure such as telecommunications, local airport, roads, rail, power and water, minimising the upfront capital costs and time line to production.

Auroch is well advanced with metallurgical test work and infill drill campaigns required for the DFS, which is being supported by a ZAR 8M (~A\$870k) grant from the 'Department of Trade and Industry' of South Africa. Importantly, this grant now opens up the potential to receive further funding on a project level from other South African based financiers.



## Updated Scoping Study Outcomes for Stage 1

Scoping study updated to reflect 3 stage strategy

Auroch recently released an update to the market outlining its plan to mine the Mancia Gold Project in three stages. Stage 1 of the mine plan envisages mining and processing the non-refractory component of the resource (~3.87Mt @ 2.1g/t Au for ~260koz) which will provide cash flow to support an expansion of the project to treat the larger refractory component of the resource in Stages 2 and 3.

### Non-Refractory Resources

Classification	Tonnes	Au g/t	Ounces
Measured	1,996,000	1.73	111,000
Indicated	929,000	1.83	54,500
Inferred	941,000	3.07	92,800
<b>Total</b>	<b>3,866,000</b>	<b>2.08</b>	<b>258,300</b>

Cut Offs: Measured 0.50g/t; Indicated 0.50g/t <300m and 1.00g/t >300m; Inferred 0.50g/t  
Source: Auroch Minerals

Auroch has updated the original Scoping Study carried out in 2013 to now reflect Stage 1 of its new 3-Stage strategy. The key outcomes are listed below:

### Stage 1 Key Scoping Study Outcomes

Annual production of 20koz p.a. assumed in Stage 1

Parameter	Updated Scoping Study
Mining Method	Open pit at Fair Bride, Dot's Luck and Boa Esperanza with shallow depth underground at Guy Fawkes
Mill Capacity	360,000tpa
Average Grade	2.20g/t Au
Annual gold production	~21,000oz p.a.
Estimated CAPEX	US\$40.9M
Avg. total operating costs per tonne milled	US\$52.86/t
Avg. operating costs per oz produced (before tax, depreciation and royalties)	US\$808/oz
Estimated LOM (excluding refractory zones)	8 years
Estimated LOM production	~170,000oz
Long term gold price assumption	US\$1,336/oz

Source: Auroch Minerals

Operating costs estimated at US\$808/oz

As highlighted in the table above, the Scoping Study estimates an 8 year Life of Mine (LOM) based on a 360,000tpa mining operation. Assuming the estimated head grade of 2.20g/t Au, annual gold production of ~21koz is achievable with operating costs of ~US\$808/oz.

Stage 1 provides path to larger and more lucrative Stage 2

The estimated CAPEX for Stage 1 is US\$41M, (an increase of ~US\$10M based on the original 2013 Scoping Study) while operating costs have also increased from US\$642/oz to US\$808/oz. It should be noted, however, that these increases reflect the use of Ultra-Fine Grinding (UFG), a flotation circuit and a pilot plant (used in Stage 2) for the treatment of refractory ores **which is key to unlocking the 2.534Moz refractory resource at Fair Bride.**



## Stage 2 – PFS for the 1.4Mtpa refractory expansion project

Stage 2 to target refractory ore

Stage 2 of the mine plan envisages trial mining and processing the deeper refractory ores at Fair Bride, generally found ~60m below surface. It is expected this ore zone will be available for mining after the first year of operation.

Targeting production of ~1.4Mtpa

Auroch anticipate processing the refractory ore through the ultra-fine grind circuit and pilot plant constructed in Stage 1. Assuming positive outcomes from this test work (in conjunction with a 'Stage 2 DFS'), Auroch would seek to expand the non-refractory processing plant to treat ~1.4Mtpa for ~90koz p.a.

## Stage 3 - Non-refractory Expansion to 720ktpa

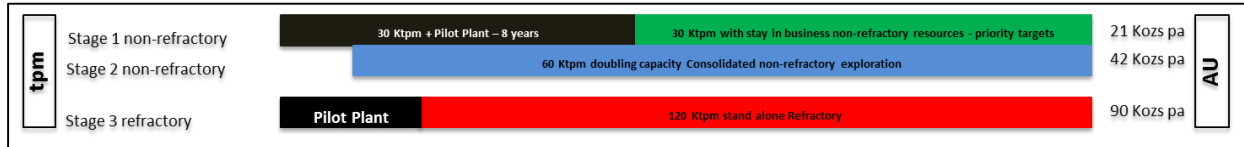
Stage 3 to target additional non-refractory ore

Auroch has also set a target to identify an additional 350koz of non-refractory material. Should the company achieve this target, opportunity exists for the non-refractory circuit to be doubled from 360ktpa to 720ktpa.

The three stages are summarised as follows:

- **Stage 1:** 30ktpm (360ktpa) standalone plant treating non-refractory material, over a 8 year mine life, producing ~21koz per annum
- **Stage 2:** 120ktpm (1.4Mtpa) plant , Fair Bride refractory material, over a 20 year mine life, producing ~90koz per annum
- **Stage 3:** doubling the capacity of the Stage 1 30Ktpm (360ktpa) plant to 60ktpm (720tpa) treating non-refractory material targeting ~42koz per annum from additional exploration.

### Proposed 20 year mine development strategy



Source: Auroch Minerals

## Grant Funding from DTI

Grant funding received from DTI

Auroch Minerals has engaged Basil Read Matomo Pty Ltd to manage the Definitive Feasibility Study. Matomo (on behalf of Auroch) applied for 'grant funding' to the Department of Trade and Industry (DTI) of South Africa, which was recently approved to the value of ZAR8,000,000 (~A\$870,000), representing ~33% of the estimated cost of the Stage 1 DFS.

Grant covers ~33% of DFS cost

The approval for grant funding is a significant outcome for Auroch as it enhances the Company's ability to secure project financing from South Africa, putting the Company on the radar of local banks. Equally importantly, the grant essentially gives the Company a 'tick of approval' from the South African government and introduces the potential of further funding from the ECIC, which is South Africa's official (government owned) Export Credit Agency.



Potential for additional funding

The ECIC has been set up to facilitate and encourage South African export trade by underwriting export credit loans and investments outside of the country in order to enable South African contractors to win capital goods and services' contracts in other countries.

### DFS Underway

The Stage 1 Definitive Feasibility Study targeting the non-refractory zones and transitional zones of Guy Fawkes, Dot's Luck, Fair Bride and Boa Esperanza deposits is now underway. This will initially focus on infill drilling programs, metallurgical test work and environmental permitting, followed by detailed mine design and project engineering.

### Capital Structure

Auroch to buy back PAR's shares

The Manica Gold Project was acquired from Pan African Resources (PAR) in 2012 under highly favourable terms which included an upfront payment of A\$2M in cash + 25M AOU shares. The remainder of the payments were tied to continued exploration success and ultimate production of the Manica Gold Project.

Non-dilutive to share holders

Auroch recently signed a binding agreement with PAR for the buyback or cancellation of PAR's consideration shares (25M shares) and deferred consideration of cash and shares (including its right to deferred cash consideration) for a total payment of A\$2M. Under the terms agreed, staged payments will be made, with the final payment due by the 1<sup>st</sup> May 2014.

Existing Capital Structure		Post Buyback	
Pan African Shares	25,000,000	Ordinary Shares	34,492,515
Remaining ASX Listed Shares	34,492,515	<b>Total Ordinary Shares</b>	<b>34,492,515</b>
<b>Total Ordinary Shares</b>	<b>59,492,515</b>	Partly Paid Shares*	21,800,000
Partly Paid Shares*	21,800,000	<b>Fully Diluted Capital Structure</b>	<b>56,292,515</b>
Deferred Consideration Shares	71,666,666		
<b>Fully Diluted Capital Structure</b>	<b>152,959,183</b>		

*\*Partly paid shares are paid to 1 cent with 19 cents unpaid  
Source: Auroch Minerals*

Shares purchased under highly favorable terms

Assuming the current AOU share price of A\$0.105 per share, Pan African's 25M shares plus the 71.6M 'Deferred Consideration Shares' (totalling 96.6M shares) equates to an implied value of A\$10.15M. Breakaway is encouraged by the terms of the agreement which will see all of these shares cancelled for total consideration of A\$2M in cash. Breakaway notes, however, that with a current cash balance of ~A\$0.5M, Auroch will have to undertake a near term capital raising to meet its agreement obligations and to fund the completion of the DFS.



## Breakaway' View

### Strategy in place

Auroch now has a clear development strategy to monetise the Manica Gold Project. The three stage development process allows the company to initiate small scale production, providing the framework and cash flow necessary to expand operations and treat the significantly larger (and potentially more lucrative) refractory component of the deposit.

Auroch Minerals appears to be cheap relative to its peers. This may be due to the perceived sovereign risk attached to operating in a country so close to the troubled country of Zimbabwe. However, it should be noted that Auroch has the support of the Mozambique government and of equal importance, the South African Government.

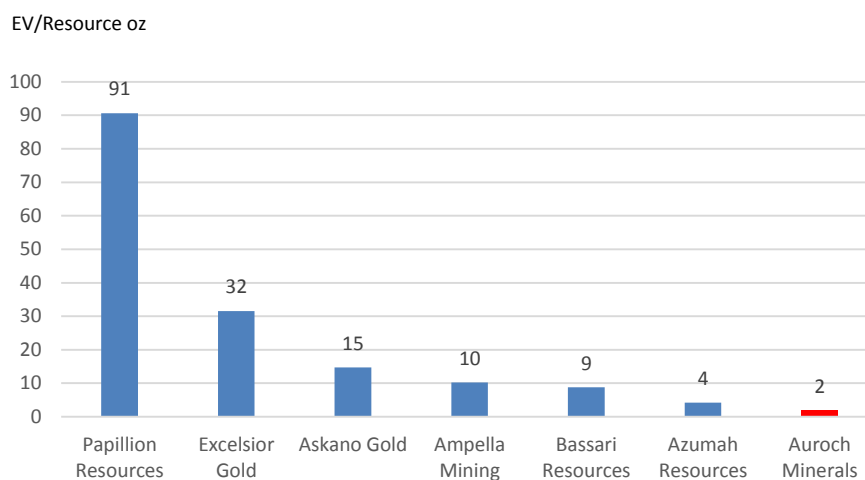
### Appears cheap relative to its peers

#### Peer Comparison

Company	EV/Oz	Country	Resource (oz)	Grade g/t Au
Papillion Resources	91	Mali	4,210,000	2.28
Excelsior Gold	32	Western Australia	1,296,000	1.82
Askano Gold	15	Ghana	9,400,000	1.66
Ampella Mining *	10	Burkina Faso	3,250,000	1.71
Bassari Resources	9	Senegal	1,000,000	2.60
Azumah Resources	4	Ghana	4,210,000	2.28
Auroch Minerals	2	Mozambique	2,820,100	1.79

\*Ampella currently under take over Source: Breakaway Research

EV/Resource Oz increases to ~A\$3.80/oz assuming A\$5M capital raise



Source: Breakaway Research

Auroch has now begun the Stage 1 DFS. Assuming positive economic outcomes, the Company is then well placed to attract project funding from various South African institutions.

As already mentioned, Auroch will need to raise capital in the near term to fund the acquisition of shares and rights currently held by Pan African Resources (A\$2M), fund the remainder of the DFS (A\$1.8M), and provide additional working capital (\$1.2M). As such, Breakaway estimates Auroch will seek to raise ~A\$5M in the near term.

Assuming A\$5M is raised via the issue of ordinary shares (@ 10c per share), Breakaway estimates the EV/Resource oz would increase to ~A\$3.80/oz, which still appears cheap relative to its peers.



## Project Review

### The Manica Project

The Manica Project is located on the western side of the Mozambique, approximately 4km north of the town of Manica and ~270km east of the port city of Beira. The project covers an area of ~15km x 5km over the eastern limb of the Odzi-Mutare-Manica (OMM) Greenstone Belt, which runs through Zimbabwe and into western Mozambique.

#### Manica Project Location



*The OMM greenstone belt is well known for hosting multi-million ounce deposits*

Source: Auroch Minerals

*Project well serviced by infrastructure*

The OMM Greenstone belt is well known for hosting gold mines such as Penhalonga, Rezende, Monarch and Old West mines, which have historically produced over 2.5Moz of gold. The project is well serviced by nearby infrastructure including local airport, sealed roads, rail, water, power and telecommunications.

#### Sovereign Risk

*Perceived sovereign risk unjustified*

While investing in neighbouring Zimbabwe clearly has high sovereign risk, Mozambique has a favourable political and legal environment. A multi-party democracy has been in place since 1994 and a solid legal framework for miners has been in place since 2002. There are currently no local ownership issues (as there are in South Africa with 'Black Empowerment') and mining projects generally receive full ministerial support.



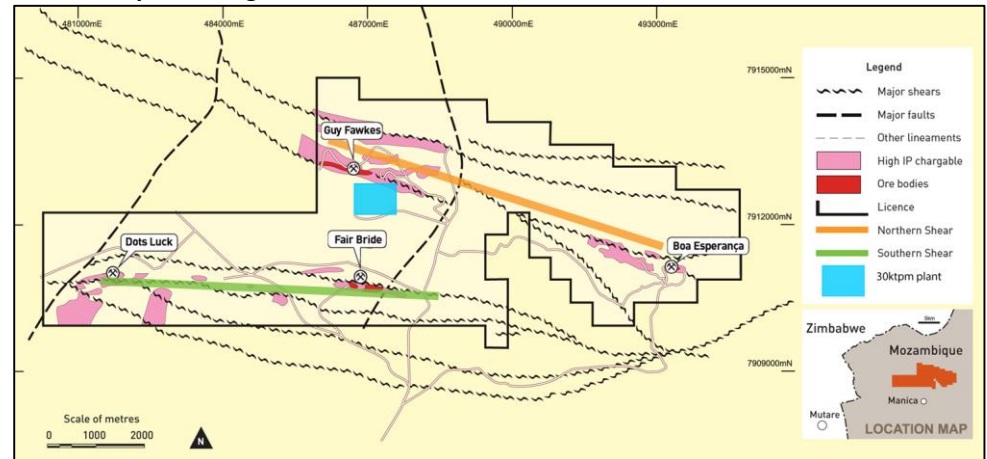
## Previous Operators

~\$25M spent on past exploration

South African based Pan African Resources (PAR) originally acquired the project in 2002 and has spent \$25m on exploration programs including extensive drilling campaigns (13,595m of RC and 21,941m of diamond), geophysical programs, and technical reports (including a concept study) focusing on a select portion of the 'Southern Shear'. This work led to the delineation of a JORC Resource **48.9Mt @ 1.79g/t Au (for 2.8Moz)** and the granting of a 'Mining Concession' (valid for 25 years).

Two prospective shear zones

### Manica: Deposit along Northern and Southern Shear



Source: Auroch Minerals

The image above shows the location of these deposits along the 'Northern' (Fair Bride and Boa Esperanza) and 'Southern' (Guy Fawkes and Dot's Luck) shear zones, while the table below shows the resource split between these deposits

Significant Resource of 50Mt @ 1.83g/t Au for ~3Moz gold

### Total Manica Resource (JORC 2012)

Category	Deposit	Mining Method	Cut-off Au (g/t)	Tons (Mt)	Grade Au (g/t)	Total Au (oz)
Measured	Fair Bride	OC	0.50	11.56	1.73	642,000
		<b>Sub Total</b>			<b>11.56</b>	<b>1.73</b>
Indicated	Fair Bride	OC	0.5 < 300m	10.8	1.64	570,000
		UG	1.0 > 300m	0.42	1.92	25,600
	Guy Fawkes		1.25	0.43	1.87	25,500
<b>Sub Total</b>			<b>11.64</b>	<b>1.66</b>	<b>621,000</b>	
Inferred	Fair Bride	OC	0.50	24.6	1.83	1,449,000
	Guy Fawkes		1.25	0.38	3.90	48,000
	Dot's Luck		0.50	0.46	2.06	30,000
	Boa Esperanza		1.25	0.33	2.94	30,000
<b>Sub Total</b>			<b>25.76</b>	<b>1.88</b>	<b>1,557,000</b>	
<b>Total Manica Project</b>				<b>48.96</b>	<b>1.79</b>	<b>2,820,000</b>

Source: Auroch Minerals

Approximately 90% of the resource is refractory

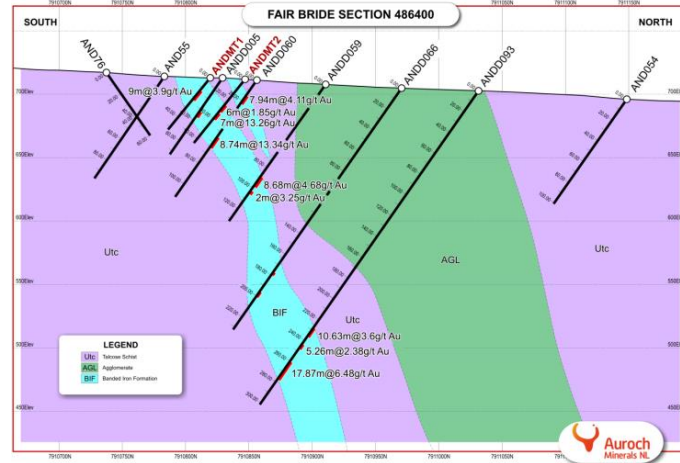
A large proportion the resource (~90%) occurs as refractory sulphide mineralisation. However, it is the near surface, non-refractory ore at Fair Bride, Guy Fawkes and Dot's Luck which provides the potential ore for Stage 1 of Auroch's development strategy.



## Fair Bride

The Fair Bride deposit is the largest deposit within the portfolio, hosting ~2.69Moz of gold within a steeply dipping Banded Iron Formation (BIF). Of this, ~127koz is estimated to occur as oxide or transitional ore, with the remainder of the resource classified as 'refractory' mineralisation.

### Fair Bride Cross Section



*Fair Bride is the largest deposit in the portfolio*

Source: Auroch Minerals

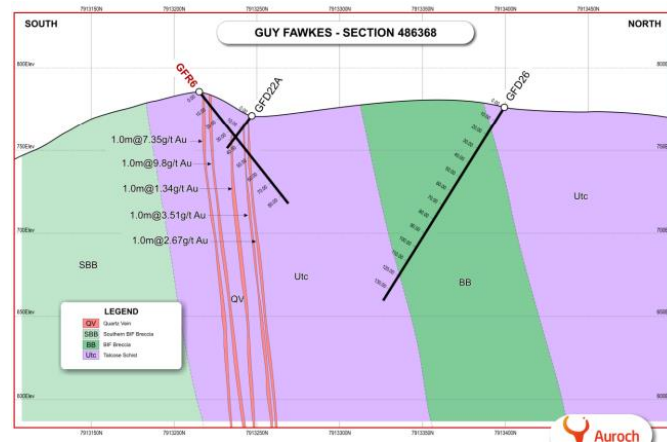
Auroch has carried out metallurgical testwork on 'non-refractory' samples from Fair Bride which indicate that recoveries of ~97% are achievable, providing confidence that the 95% recovery rate assumed in the scoping study plant design can be attained. Test work is ongoing to optimise grind size and leach times.

## Guy Fawkes

*High recovery rates achievable*

The Guy Fawkes deposit currently hosts the largest 'non-refractory' resource of 230koz of gold. Ten RC and three diamond holes have recently been completed, designed to confirm the geological model of the deposit and improve the confidence level of the resource estimate. A modest increase in size and a lift in the resource category is anticipated.

### Guy Fawkes Cross Section



*Guy Fawkes hosts largest non-refractory resource of 230koz*

Source: Auroch Minerals



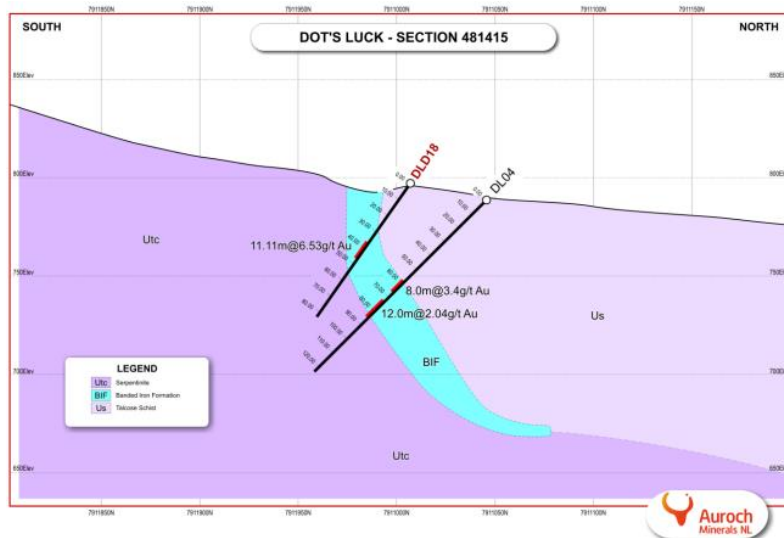


## Dot's Luck

The Dot's Luck deposit is the smallest 'non-refractory' deposit hosting ~25koz of gold. The infill drill program comprised of two RC and two diamond drill holes designed to improve the resource classification and resource estimation.

### Dot's Luck Cross Section

*High silver grades also encountered*



Source: Auroch Minerals

Drill highlights include:

- 11.1m @ 6.5g/t Au from 37m, including 6.9m @ 10.4g/t Au
- 13.7m @ 3.8g/t Au from 30m, including 2.5m @ 14.2g/t Au
- 6m @ 4.9g/t Au from 42m

Encouragingly, the Dot's Luck ore body also hosts high silver grades (grades currently being assayed) which should serve to reduce cash costs through by-product credits.

### Exploration Potential and Upcoming Drill Campaigns

*Significant exploration potential still exists*

The exploration work planned for the first 8 months of the DFS has been designed to upgrade the 92,800oz already delineated at Dot's Luck, Guy Fawkes and Boa Esperanca from Inferred to the Indicated resource category. This infill drilling and resource modelling will be undertaken in Q2 and Q3 2014 and is required as an input to the DFS Study.

While Fair Bride and the smaller satellite deposits combine to form an already sizable resource of ~3Moz, significant exploration potential still exists within the project area.

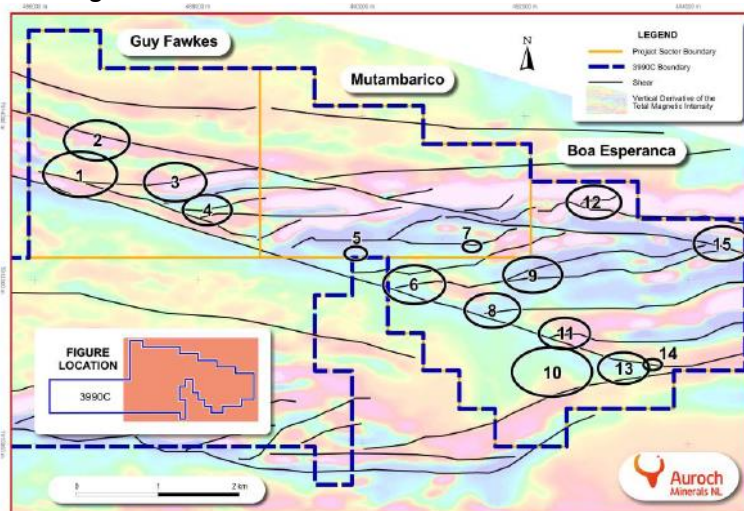
Approximately 2km (or 8%), of a potential 27km of strike, along two shear zones have been adequately tested to date with historical exploration generally focusing on delineation of 'known' gold occurrences rather than the identification of new resources.

Auroch has carried out a VTEM and an aeromagnetic survey over the entire Mancia Project (at 50m spacing) as well as undertaken detailed geochemical mapping over the prospective areas, leading to the identification on 15 additional targets across just the Northern Shear. These targets will be followed up with trenching and scout drilling in due course.



## New Targets

15 additional targets identified



Source: Auroch Minerals

## Directors

Non-Executive  
Chairman

Glen Whiddon

**Glenn Whiddon** has an extensive background in equity capital markets, banking and corporate advisory with specific focus on natural resources, enabling project origination and financing. He has a significant contact network throughout the world which has led to the development of a number of projects. Glenn holds an economics degree and has extensive corporate and management experience. He has global banking experience with The Bank of New York in Australia, Europe and Russia and is currently a director of numerous Australian and international publicly listed companies.

Managing Director

Dean Cunningham

**Dean Cunningham** is an experienced mining engineer and corporate financier with over 25 years' experience. Most recently, Dean was Executive Director Corporate Finance for Basil Read where he was largely responsible for the acquisition activity within the group in conjunction with capital raisings and investor relations. In addition he held the position of Chief Executive Officer at TWP Investments, the investment arm of TWP Holdings, a mining, processing and energy consultancy company based in South Africa, Peru and Australia.

Dean was previously Head of Mining Equity and Corporate Sales at Nedbank Securities, overseeing African mining investment opportunities, IPOS, Mergers and Acquisitions, capital raising and debt facilitation and Director and Head of Mining Research at Investec Securities Limited. Prior experience includes Global Commercial and Marketing Director of Calibrated Diamonds (Pty) Limited, Group CEO of Micofin Holdings Limited, and Portfolio Management at Fedsure Asset Management.

Non-Executive  
Director

Jan Nelson

**Jan Nelson** is a geologist with over 15 years' experience in the mining industry. Recently he was CEO of Pan African Resources plc where he was responsible for transforming the company from an exploration vehicle with little cash resources to a 200,000oz per annum low cost, high grade precious metals dividend paying mining company. Prior to this Jan held positions in mine management and operations with Harmony Gold Mining Company Limited and Gold Fields Limited. Jan is also a director of Xstract Energy Plc.

\*CV's extrapolated from company website



### **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 Auroch Minerals 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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