

High grade gold deposits in a re-emerging goldfield in southeastern Lachlan Orogen Mines & Wines 2010



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#### **Competent Person's Statement**

Information in this report relating to Mineral Resources has been completed by Mr Aaron Green of Runge Ltd., who is a member of the Australasian Institute of Mining and Metallurgy. Mr Green has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a 'competent person' under the 2004 Edition of the Australasian Code for reporting of Exploration Results, Mineral Resources and Ore Reserves (the JORC Code). Mr Green consents to the inclusion of the data in the form and context in which it appears. The contents of this report that relate to geology and historical exploration are based on information compiled by Mr Peter van der Borgh, who is a Professional Geologist and Fellow of the Geological Society. He has sufficient experience relevant to the style of mineralisation and types of deposit under consideration and to the activity being undertaken to qualify as a 'Competent Person' as defined in the 2004 Edition of the JORC Code. Mr van der Borgh consents to the inclusion in this report of the matters compiled by him in the form and context in which they appear.

The information in this report that relates to Majors Creek – Dargues Reef Gold Project mining section ore reserves estimates is based on information compiled by Mr Wayne Emslie who is a member of the Australasian Institute of Mining and Metallurgy and has sufficient experience relevant to the style of mineralisation and type of deposit under consideration and to the mining method undertaken to qualify as a Competent Person as defined in the JORC Code (2004). Mr Wayne Emslie is a full time employee of Mining Plus Pty Ltd and consents to the inclusion in the report of the matters based on this information in the form and context in which it appears.



## Outline

- Corporate Snap Shot
- Dargues Reef Gold Project
- Near Mine Exploration
- Regional Exploration



# Highlights

- Developing the high-grade Dargues Reef Gold Project, NSW (CRC: 100%)
- Definitive Feasibility Study due November 2010
- Initial +50,000oz pa production from Q4 2011
  - Cash costs of ~A\$600/oz
- Underground mine development with favourable characteristics that provide a number of competitive advantages:
  - high grade (+6.0g/t Au) deposit commencing from nearsurface, continuity of grade, excellent recoveries (99%) and good ground conditions
- Major drilling programs underway:
  - initial 5-year mine life, targeting +6 years DFS
  - Maiden Reserve and Resource upgrade: Q4 2010
  - targeting recent new discoveries both near-mine and regionally





4

## **Corporate Snapshot**

ASX Code	CRC
Shares on Issue	170m
Listed Options on Issue (20c)	34m
Unlisted Options on Issue (~50c)	12m
Share Price	20 cents
Market Cap	\$34m
Cash & Deposits (includes \$2.7M expected from the sale of North Monger to SLR)	\$5.5m
Debt	None









## History of Gold in Majors Creek

- Gold discovered in 1851
- >1.2Moz of recorded alluvial gold
- ~30,000oz of recorded primary gold
- Never developed into a mine field?
  - Alluvial mining sporadic
  - Difficult metallurgy in primary ores
  - Wrong rock type for gold!
  - Wrong age rocks for Lachlan FB!
  - Access not resolved until 1992!
- Last concerted production c. 1910
- Lay in wait for almost 100 years!!





# **Dargues Reef Gold Project**





## Majors Creek Gold Field



700 sq km highly prospective tenement holding

Located within Lachlan Fold Belt, NSW

Significant historic production endowment: +1<sup>Pril</sup>2 Moz from alluvial sources, minor primary production

Nigh-grade, structurally

controlled, primary gold mineralisation

New mine development at

**Dargues Reef** 



#### **Dargues Reef Gold Project**







## **Dargues Reef Gold Project**

- Freehold owned (400ha)
- Current JORC Resource of 1.44Mt @ 6.2g/t Au for 286,000oz, resource upgrade due Q4 2010
- Definitive Feasibility Study nearing completion (November 2010)
- All necessary approvals on track to be finalised by the end of 2010
- gold concentrate supply agreements being considered as part of DFS
- Proposed compact underground mine with very small footprint
- Gold production to commence in Q4 2011
- Payment of \$4m to Moly Mines upon decision to mine or delineation of 1Moz resources





### Dargues Reef - "Made to Mine"



- Gold production from just 35 metres depth, defined to only 450 metres – remains open
- Initial 5-year mine life at +50,000oz pa, 330,000tpa production rate
- Remarkable continuity of grade and mineralisation
- Conventional underground mining method – top-down longhole stoping
- Paste-fill to be used to allow full orebody extraction
- Small, efficient mining fleet
- Good ground stability, considerable development within the ore zone = low operating costs

### Site Layout





## **Competitive Advantages**

- Course grinding
- Mains power
- ~50% gravity recovery, ~49% concentrate @ 20-30g/t gold
- Modular plant can accommodate upgrade in capacity from initial nameplate – will grow with Cortona





# **Dargues Project Summary**

- Staged approach to gold production
- Initial +50,000oz pa production from Dargues Reef commencing Q4 2011
- High-grade project with unique characteristics:
  - "Made to mine"
- Low cash costs, strong cash flows
- Resource upgrade expected in Q4 2010 to enhance mine life to +7 years
- DFS Due November 2010
- Modular 330,000tpa treatment facility with growth optionality
- Outstanding exploration upside in the near-mine environment and regionally
- Ongoing drilling and exploration activity
- Cash flow from initial operation to support ongoing exploration





## Dargues Reef – Upside

- Gold deposit hosted in granite which has been modelled to depth of 5km
- All known lodes remain open at depth – defined to 450m only
- Significant potential for parallel • lodes demonstrated by recent drill results
- Targeting upgrade of current resources to 35% Measured, 65% Indicated, plus new Inferred Resources
- Exploration drilling ongoing with 2 rigs on site



LIMURCES LIMIT

## Dargues Reef – Upside

- Additional Inferred Resources being defined with very high (~80%) conversion rate expected
- Testing Plums Lode, depth & width extensions and identification of new gold lodes
- Near surface parallel lodes to increase short to medium term gold production rates
- Depth extension to increase Mine life to +6 years



## **Dargues Reef: Alteration**

- Red Brick alteration facies
  - Low intensity propylitic-type
  - Primary minerals and textures preserved
  - Ser-chl-ep-hem
  - 1/10 < F/R < 1/1 (thermo modelling)</li>
- Black Spot alteration facies
  - Medium intensity propylitic to phyllic
  - Primary textures preserved
  - Primary minerals replaced
  - Alb-ser-chl-cal
- Lode facies
  - High intensity phyllic-type
  - Alb-ser-qtz-cal-chl-py-cpy-native gold etc



## **Dargues Reef: Mineralisation**

- No quartz veining, rare visible gold
- Little or no apparent deformation
- Disseminated py (to 15%) and cpy (to 3%)
- Pyrite 'replacing' mafic minerals, granitic texture preserved
- Gold grades 2.0 20.0g/t
  - +/- Ag, Cu, Bi, Sb, Te, W





## **Dargues Reef: Fluids**

- **1.** Metasomatism of BG, hbl to chl + mag
- 2. Py replacement 'nucleating' on magnetite grains and migrating through mafic minerals
- 3. Continued infilling.....
- 4. ..anhedral to euhedral grains containing...
- 5. .....blebs of gold.....
- 6. .....Or rimmed by gold.....
- 7. .....Or fracture filled by gold.....







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ASX Code: CRC

IXOURCE! IIMITE!



From Shultz, 2009



## The Braidwood Granodiorite

- Northern part of I-Type Bega Batholith
- Devonian Age 410Ma +/- 3Ma
- 'Oxidised' magnetic signature
  - Much of the magnetite is secondary
- Hornblende dominant western phase, biotite dominant eastern phase
- 'Longflat' Volcanics (413Ma +/-2Ma) to west, gently dipping contact interpreted
- Ordovician sediments to east, steeply dipping contact interpreted







#### **Near Mine Exploration**



Disclaimer: There has been insufficient exploration on these targets to define Mineral Resources, and as such target sizes are conceptual in nature. It is not certain whether further exploration will result in the determination of Mineral Resources at these targets.



#### **Historical Mines**



## **Regional Exploration**

- Tenements cover 700km<sup>2</sup> of prospective region
- Geological model proven by CRC exploration success
- Several Dargues Reef 'look-a-like' structures identified
- Additional target based on alteration associated with large porphyritic intrusion
- Aim to increase production and further extend mine life





# Finding the next Dargues

- Diligent mapping
- ~E-W structural corridors
  - Diorite (and other) dykes
  - Low magnetic lineaments
  - Intersections with ENE and ESE conjugates
- Residual soils, gold best pathfinder
- Close to granite roof
- Recognisable internal heterogeneities
- Gravity? Magnetics. EM? IP?









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