

# **Newcrest Mining Limited**

**Exploration Update  
September 2006**

**Dan Wood, EGM Exploration**

# Agenda

- **STRATEGY** - **Dan Wood**
- **AMERICAS** - **Bob Barker**
- **WESTERN  
PACIFIC** - **Ray McLeod**
- **CONCLUSION** - **Dan Wood**

# Newcrest Business



**Gold-copper Explorer / Producer**

# Newcrest Philosophy – An Exploration View

- Find it
- Develop it
- Mine it
- Make a profit



**\* We have discovered  
every deposit  
we mine**

*\* Originally noted by T. Churcher*

# Insitu Resource Additions\* 1992-2005

**Gold ✎ 65 Moz**

**Gold Equivalent \*\* ✎ 98 Moz**

Source:

\* Metals Economics Group (MEG) estimate

\*\* MEG Calculation (June 2006) for gold + copper (@ US\$410/oz & US\$1.25/lb)

# Relative Peer Performance (Major Gold Producers)

**“Only 11 of the 22 profiled companies reported major discoveries during the 1992-2005 period”.**

**“Newcrest Mining has been the most successful, with total gold resources of 64.6 million oz in five discoveries”**

*Source:*  
*Metals Economics Group, 2006*

# Comparative Discovery Performance\*

COMPANY	MAJOR DISCOVERIES**	ATTRIBUTABLE ADDITIONS	
		Gold (Moz) *	Gold Equiv. (Moz) *
Newcrest	5.0	64.6	98.4
Barrick Gold	4.2	48.7	59.3
Placer Dome	2.9	38.4	38.4
Buenaventura	1.8	22.3	31.4
Newmont Mining	2.3	22.0	28.2
Goldcorp	1.0	10.0	10.0
AngloGold Ashanti	1.0	6.5	6.5

Source:

\* Metals Economics Group 2006 (Table E)

\*\* Attributable Share

# Five Richest Discoveries, 1992 - 2005

<b>Project</b>	<b>Discovered by</b>	<b>Gold Grade g/t</b>	<b>Value, all metals per t rock (US\$/t)</b>
<b>Red Lake</b>	<b>Goldcorp</b>	<b>37</b>	<b>642</b>
<b>Kencana</b>	<b>Newcrest</b>	<b>39</b>	<b>517</b>
<b>Jundee</b>	<b>Hunter Resources</b>	<b>5.3</b>	<b>237</b>
<b>Kupol</b>	<b>Bema Gold/Chukotha</b>	<b>15</b>	<b>236</b>
<b>Cerro Blanco</b>	<b>Mar-West Resources</b>	<b>16</b>	<b>218</b>

*Source:*

*Metals Economics Group, 2006 (Table 37)*

# Reasons for Past Success

- **People**
- **Necessity**
- **How we do things**



# How We Do Things

**Good geology**

**+**

**Careful sampling**

**+**

**Extensive drilling**



**Discovery**



# Exploration Strategy Objective

- 1991** - **Survival**
- 1996** - **2Moz gold production**
- 2006** - **Double size of Newcrest**
- 2016** - **?**

# 1991 Strategy Outcome

## Cadia Hill discovery – late 1992

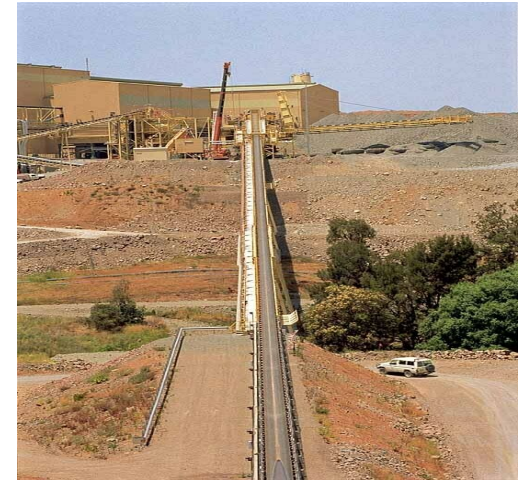
- 3.4 Moz Au by 31 December 1993
- 6.3 Moz Au by 30 June 1995

## Cadia East discovery – 1993

- 2.0 Moz Au by 30 June 1995

## Gosowong discovery – 1994

- 0.69 Moz Au by 30 June 1996



# 1996 Exploration Strategy

- Target large deposits/high potential geology
- Lower-risk bias properties
- Semi-advanced/advanced exploration properties
- Focussed effort
- Drilling intensive



# 1996 Strategy Outcome - Gold

## Grassroots

- Ridgeway discovery: December 1996 – 4.2Moz Au by 30 June 2000
- Ghost Grab discovery: 1997 – 1.1Moz Au by 30 June 1998
- Cracow discovery: 1998 – 0.8Moz Au by 30 June 2002
- Cadia East/Far East discovery: 1998 – 14Moz Au by 30 June 2004
- Toguraci discovery: 2001 -  $\approx$ 0.4Moz Au by 30 June 2005
- Kencana discovery: 2003 – 2.2Moz Au by 30 June 2005
- Kilkenny Cracow discovery: 2005

## Mine

- Telfer extension: 2000 – 26Moz by 30 June 2002



# 1996 Strategy Outcome - Copper

## Grassroots

- Ridgeway discovery: 0.4Mt Cu by 30 June 2000
- Cadia East/Far East discovery: 2.9Mt Cu by 30 June 2004
- Rio Blanco discovery, Peru (*sold*): 6.8Mt Cu in 2005

## Mine

- Telfer extension: 0.9Mt Cu by 30 June 2002



# 1996 Strategy Expenditure

(9 years to 30 June 2005)

	\$M	Average \$M
Grassroots	328.4	36.5
Mine Res. Def.	60.2	6.7
Feasibility	126.3	14.0
<b>TOTAL</b>	<b>515.0</b>	<b>57.0</b>

# Exploration Expenditure

(1991 to 30 June 2005)

	\$M	Average \$M
Grassroots	501.8	34.6
Mine Res. Def.	117.7	8.1
Feasibility	197.5	13.6
<b>TOTAL</b>	<b>817.0</b>	<b>56.0</b>

# Setting the Industry Scene

*(the gold dilemma)*

- **Most gold deposits are small**
- **90% less than 3.2Moz resource**
- **Natural limit to sustainable production**

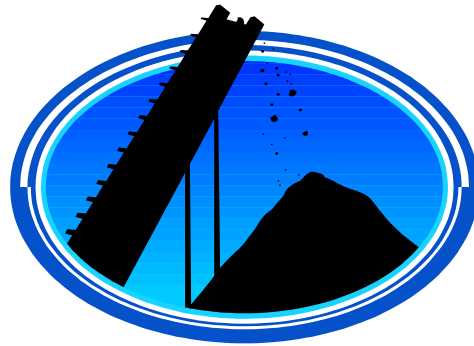
# World-class (top 10%) Deposits

- **Gold > 3.2 Moz (100t)**
- **Copper > 2Mt**

# Production & Required Discovery Rates

**2 Moz gold/yr : 1 World-class entry deposit/year**

**0.5Mt copper/yr : 0.3 World-class entry deposit/year**



# **Business Implications – An Exploration View**

- **Work with Nature's constraints**
- **Growth in margin vs ounces**
- **Seek a sustainable balance**

# Sustainable Balance – An Exploration View

**Large base-load production**

**High-margin supplements**

# Exploration Demands



§ **Need giant deposits  
(>10Moz)**



§ **Focus on quality**

# Giant Deposits

## Mainly:

- Porphyry
- Sediment-hosted
- Epithermal

## Some:

- Greenstone-hosted (Archean)

# Discovery Strategy (2006 – 2016)

- **Bulk-tonnage/modest grade & small tonnage/high grade Au & Cu targets**
- **Focus on high potential geological terrains**
- **Favour underground mining targets**
- **Lower discovery risk portfolio bias**
- **Lower business/political risk search**

# Discovery Strategy (cont)

- Technically driven
- Focussed on gold and copper
- Restricted geologically (Circum-Pacific)
  - Australia
  - Gosowong, Indonesia
  - Nevada, USA (Alaska, Mexico?)
  - Peru
  - SW Pacific
- Seeking copper-gold and copper opportunities
  - Chile
  - British Columbia, Canada



# Principal Target Deposit Types

- High grade epithermal vein Au - (Gosowong)
- Porphyry Au-Cu & Cu±Au - (Cadia)
- Iron-oxide Cu±Au - (Ernest Henry/Candelaria)
- Sediment-hosted Au - (Telfer/Carlin)
- High-sulphidation epithermal Au - (Yanacocha)

# Present Exploration Tactics

- **Hunting party approach**
- **Devolved authority/responsibility**
- **Overarching strategy**
- **Adequate funding/reasonable flexibility**
- **Opportunity for additional funding**