

# Base Metals Strategy 9 October 2002

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Chief Executive, Base Metals Division

#### AngloBase: Getting Back on the Right Track

"The market expects one great performance (coal), one solid performance (forest products), one hoped for recovery (industrial minerals) and one train smash (base metals)."

Business Day: 7 March 2002

# Agenda

- AngloBase strategy
- Copper
- Nickel
- Zinc
- Mineral sands and niobium
- 2002 H1 results
- Summary

# AngloBase Strategy

# AngloBase Position in Industry

- Anglo American was a major player in 1960s, mainly in the Zambian copperbelt
- Largely withdrew from base metals in 1970s
- New base metals portfolio assembled during 1990s, through Minorco, AMSA and AACSA
- Following merger of AACSA and Minorco, AngloBase formed in 1999
- 22 operations and projects in 13 countries
- Major strategic review completed in 2002

# Potential Sources of Competitive Advantage

- Patrimony: World class assets
- Capital allocation
- Capital and operating efficiency
- Technology
- People

# **Key Initiatives**

- Focus on ownership of fewer, larger, low cost assets
- Dispose of non core assets and re-deploy resources
- Improve capital allocation to acquisitions and new projects
- Adopt a venture capital approach to exploration
- Continuous improvement of capital and operating efficiency
- Sharpen commercial focus of R&D
- Build competitive advantage through people

#### Sale or Closure of Non Core Assets

#### Announced

- Konkola Copper Mines
- Kolwezi
- Salobo
- Tati
- BCL
- Ruttan (Hudson Bay)

#### Under review

- Anaconda
- Nkomati

# Capital Allocation: Acquisitions and Projects

- Significant area of weakness in the past (Anaconda, KCM)
- Management processes improved
- Metal price forecasting methodology revised

### Capital Allocation: Exploration

- Number of active countries reduced from 22 to 13
- Non-geological risk analysis improved and commercial skills upgraded
- Venture capital approach to resource allocation
- Budget allocated approximately 55% to copper, 25% to nickel and 20% to zinc
- Budget cut from US\$68m to US\$46m in 2002

# Capital and Operating Efficiency

- Value driven management culture with clear targets and objectives
- Standardisation of life-of-mine planning
- Continuous improvement management tool introduced
- Knowledge management and benchmarking
- Strategic procurement
- Operational efficiency aided by location of most operations in weak currency areas

# Research & Development

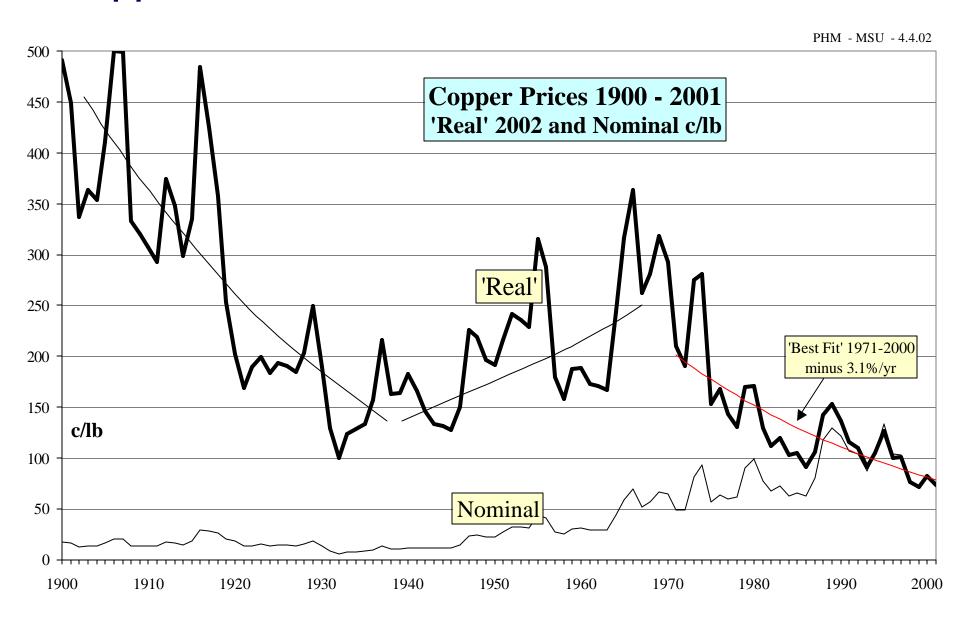
- Energy reduction in comminution
- Hydrometallurgical processing of copper sulphides, nickel laterites, zinc oxides and zinc sulphides
- Mineral sands processing technology
- Magnesium production technology

# People

- Performance contracts for all managers, with clear targets for SHE, financial performance, operational performance, risk management and people management
- Significantly improved talent management
- Ensuring that we have the right people in the right place to maximise value

# Copper

# **Copper Price**



### Copper Market Overview

- Demand recovery expected in 2003:
  - market deficit to develop in 2003
  - price recovery held back by inventory overhang
- Downside risks:
  - price sensitive idled capacity
  - reduced Chinese purchases
- Good longer term outlook underpinned by a lack of quality new projects

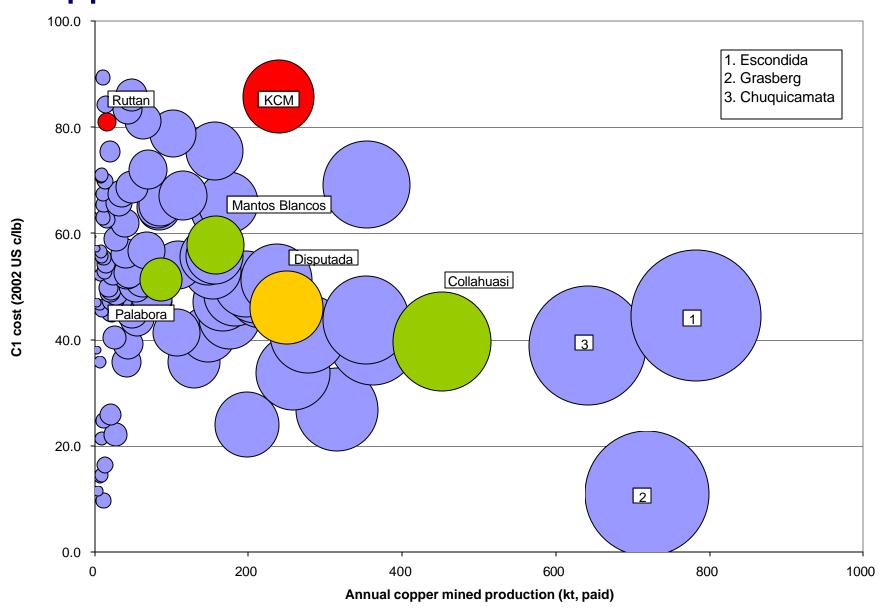
# Development of Copper Portfolio

- Acquisition of Disputada in progress
- Rosario project at Collahuasi on track
- Exciting exploration discovery at Boyangan
- Exit from KCM finalised

# **Summary of Copper Portfolio**

Asset	Country	Life	<b>C1</b>	Holding	Strategy
Boyongan	Philippines			80%	Advanced exploration project
Collahuasi	Chile	40+	45	44%	Expand
Disputada	Chile	25+	<50	100%	Integrate, expand
KCM	Zambia			33%	Exited
Kolwezi	DRC			30%	Exited
Mantos Blancos	Chile	16	58	100%	Cash cow
Palabora	South Africa	12	<50	29%	Passive investment
Quellaveco	Peru	25+	~55	80%	Project pipeline
Salobo	Brazil			50%	Exited

# **Copper Assets**



### Acquisitions: Disputada

- •US\$1.3bn copper acquisition in Chile consisting of 2 mines (Los Bronces and El Soldado) and a smelter (Chagres)
- •Output of 250 kt/a increasing to 300 kt/a with further expansion opportunities
- •World class asset with C1 cost < 50 US c/lb
- •Los Bronces open pit mine has 25+ year life with flat grade/cost profile
- •Estimated incentive price 83 US c/lb Cu El Soldado EW tankhouse



Los Bronces open pit



Anode casting at Chagres smelter



# Projects in Construction: Collahuasi Rosario

- •US\$654m Rosario project approved
- •Transition from Ujina to Rosario compensates for falling copper grade
- •Maintain ±400 kt/a copper for 40+ years
- Potential for further expansion
- •Estimated incentive price 54 US c/lb Cu

Ujina open pit



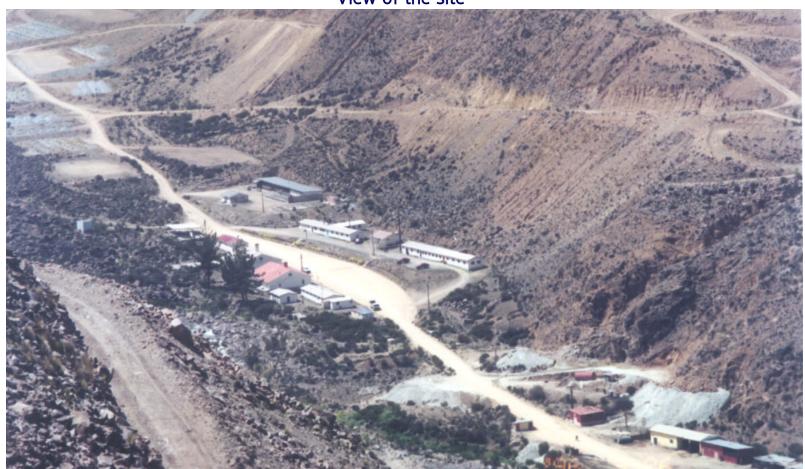
Concentrate export at Punte Patache



# Project Pipeline: Quellaveco

- •Open pit copper mining project in Peru
- •Potential production of 200,000 t/a Cu over a 26 year life
- •Estimated C1 costs 53 US c/lb Cu for first 8 years
- •On hold pending improvement in market conditions

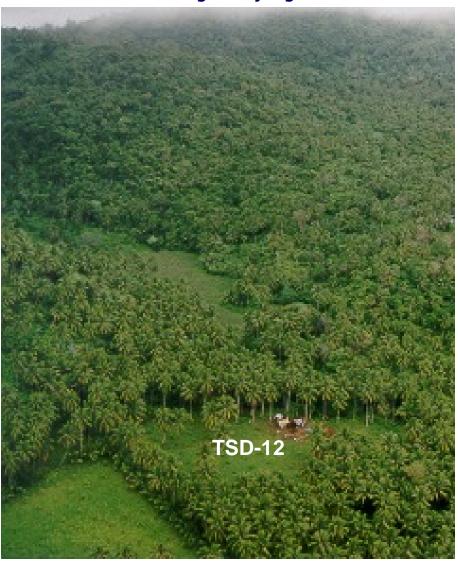
  View of the site



# Advanced Exploration Project: Boyongan

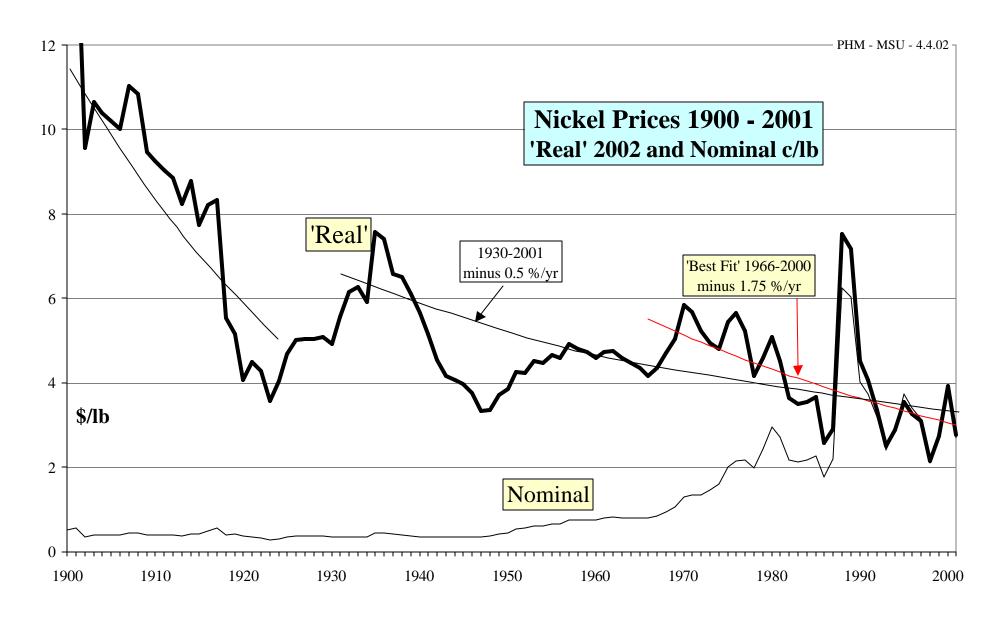
- •Copper-gold deposit in Philippines oxide porphyry to 400m and sulphides below
- •Resource definition drilling to be completed by Q4 2002
- Initial metallurgical testwork encouraging
- •Two additional deposits in immediate vicinity being drilled
- Prefeasibility study will be considered in 2003
- Intersections include:
  - TSD 15: 393 m at 1.6% Cu, 2.4 g/t Au
  - TSD 38: 366 m at 1.7% Cu, 4.5 g/t Au
- •Current (rough) estimate of resource: 150 200 Mt at 1% Cu equivalent

Drilling at Boyongan



# Nickel

### **Nickel Price**



#### Nickel Market Overview

- Price strength a function of rebound in stainless steel cycle, tight scrap market and Russian stock manoeuvres
- Metal market expected to be in deficit in 2003
- Downside risks:
  - price induced scrap availability
  - stainless steel growth rates
  - "hidden stocks"
- Lack of near term capacity expansions should lead to robust prices in short to medium term

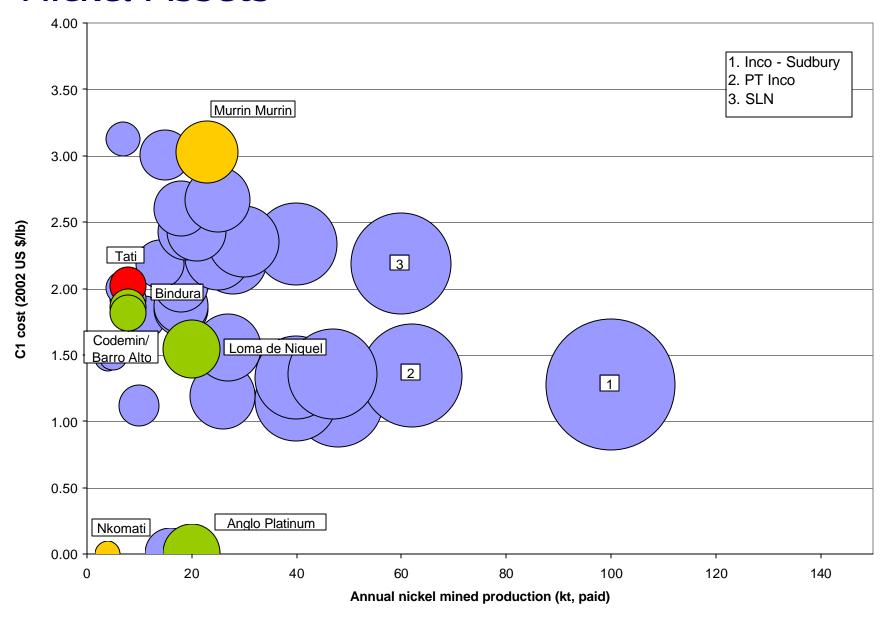
# Development of Nickel Portfolio

- Ramp up of Loma de Niquel underway
- Brownfield expansion potential at Codemin/Barro Alto
- Exit from numerous non core, smaller assets
- Renegotiate with bondholders or exit Anaconda

# Summary of Nickel Portfolio

Asset	Country	Life	<b>C1</b>	Holding	Strategy
Anaconda	Australia	15+	>200	24%	Renegotiate with bondholders or exit
Barro Alto	Brazil	25+	~180	100%	Synergies with Codemin
BCL	Botswana			26%	Exited
Bindura	Zimbabwe	6	225	53%	Run for cash
Codemin	Brazil	6+	190	90%	Cash cow
Loma de Niquel	Venezuela	25+	<175	95%	Ramp up
Nkomati	South Africa			25%	Exit
Tati	Botswana			43%	Exited

#### **Nickel Assets**



# Project Pipeline: Barro Alto

- •Feasibility study completed on greenfield project to produce 40kt/a nickel in ferronickel from laterite resource in Brazil. Concept rejected.
- •New project calls for processing of higher grade Barro Alto ore at existing Codemin facility
- •Ore to be trucked/barged to Codemin
- New project has significantly enhanced risk/reward
- •Feasibility study to be completed in Q4 2002

  Codemin pyrometallurgical plant

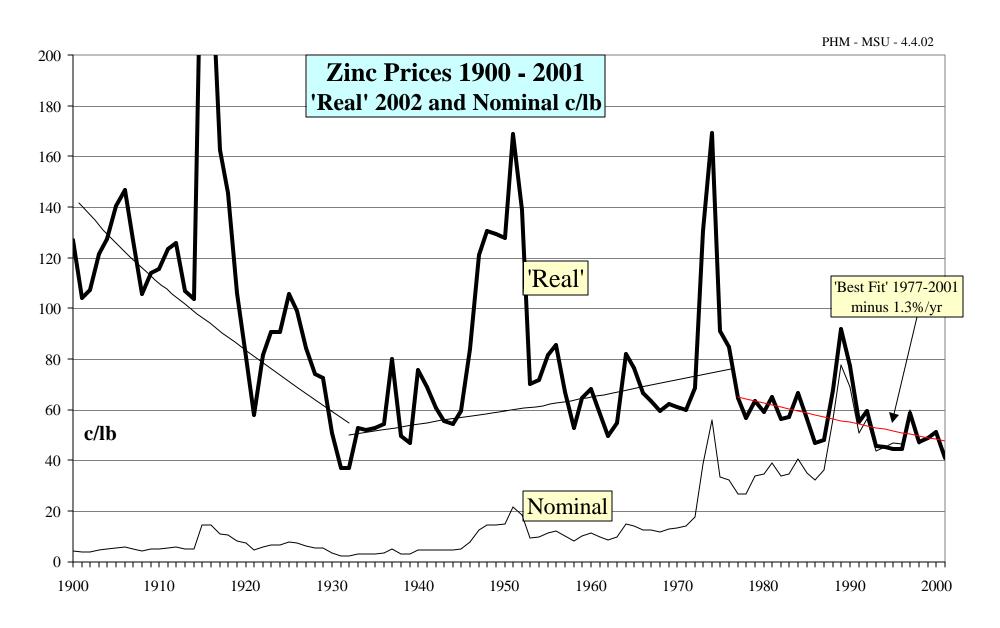


Drilling at Barro Alto



# Zinc

#### Zinc Price



#### Zinc Market Overview

- Price recovery held back by weak producer response to critically low prices and low demand
- Weak short to medium term outlook:
  - metal market surpluses expected
  - shadow of Chinese metal exports hanging over market
- Upside risks:
  - strength of demand rebound
  - smelter output constraints
- Longer term outlook influenced by significant mine depletion and limited new investment

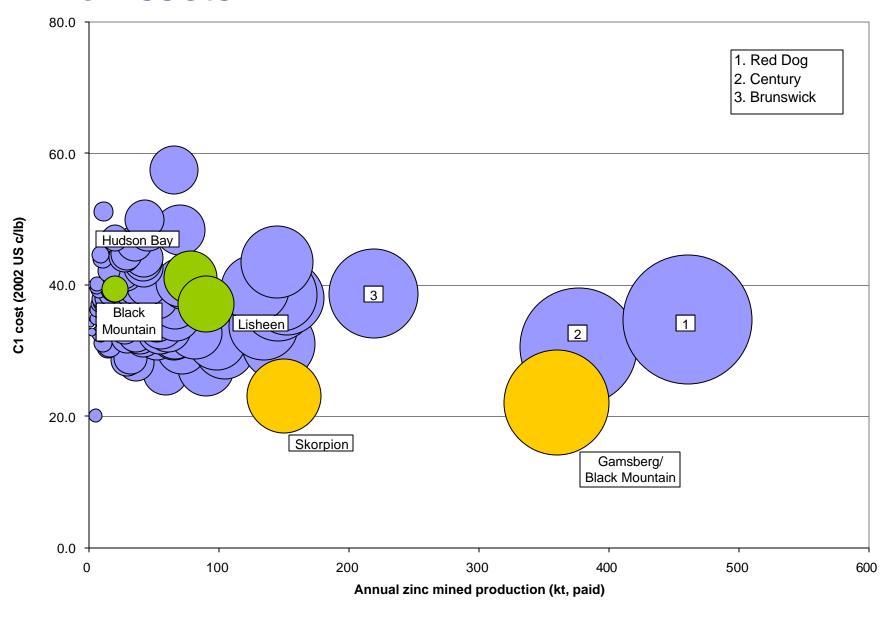
# Development of Zinc Portfolio

- Good projects bad industry
- Skorpion, Black Mountain and Hudson Bay 777 projects on time and under budget
- Lisheen ramp up complete
- Gamsberg project on hold
- Exploration budget cut

# Summary of Zinc Portfolio

Asset	Country	Life	<b>C1</b>	Holding	Strategy
Black Mountain	South Africa	12	<37	100%	Combine with Gamsberg
Gamsberg	South Africa	33	~25	100%	Project pipeline
Hudson Bay	Canada	15	<37	100%	Run for cash
Lisheen	Ireland	12	<37	60%	Run for cash
Skorpion	Namibia	15	<27	100%	Under construction

#### **Zinc Assets**



### Projects in Construction: Skorpion

- •Integegrated zinc mine/refinery in Namibia from oxide ore
- World's first industrial scale zinc SX/EW plant
- •US\$454m capex, 1st quartile C1 cost (<27 US c/lb)
- Project on schedule, within budget
- •Commissioning in Q1 2003, ramp up to 150,000 t/a
- Entire output placed
- •Estimated incentive price 41 US c/lb Zn



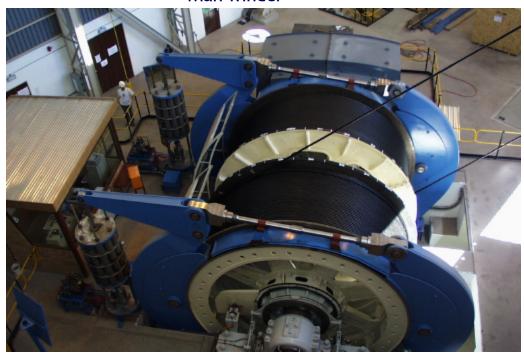
Construction of cellhouse



#### Projects in Construction: Black Mountain Deeps

- •US\$110m shaft sinking extends life to 2013
- Significant synergies with Gamsberg
- Potential to increase life beyond 2013
- Project on schedule, within budget
- •Estimated incentive price 41 US c/lb Zn

Man winder



Deeps shaft head gear



### Projects in Construction: Hudson Bay 777

- •US\$275m project includes new 777 shaft, Chisel North mine, zinc cellhouse and surface infrastructure
- •Significant cost reduction and life extension (2016)
- Project on schedule, within budget
- High leverage to copper and zinc price
- •Estimated incentive price 48 US c/lb Zn

Inside the new cellhouse



Shaft sinking at 777 mine



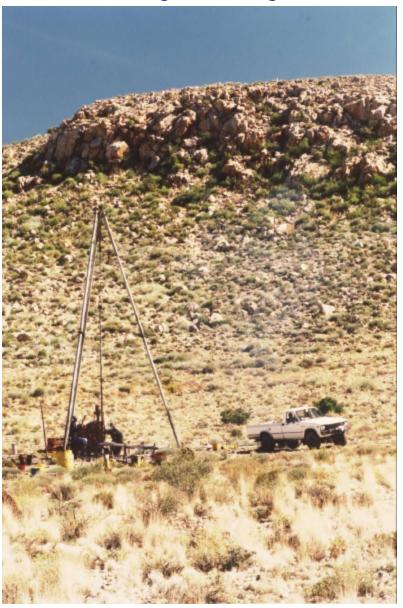
### Project Pipeline: Gamsberg

- Integrated zinc mine/refinery project in South Africa
- •Mine capacity of 300kt/a with 33 year life and refinery capacity of 360kt/a to accommodate Black Mountain concentrates
- •Project on hold pending an improvement in market conditions
- •Project has 1<sup>st</sup> quartile C1 cost (<25 US c/lb)
- •Estimated incentive price 39 US c/lb Zn

Access to the Gamsberg inselberg



#### Drilling at Gamsberg



## Mineral Sands and Niobium

#### Mineral Sands and Niobium

#### Namakwa

- Namakwa ramp up complete strong cash generation
- Strong position in zircon market
- Significant expansion potential

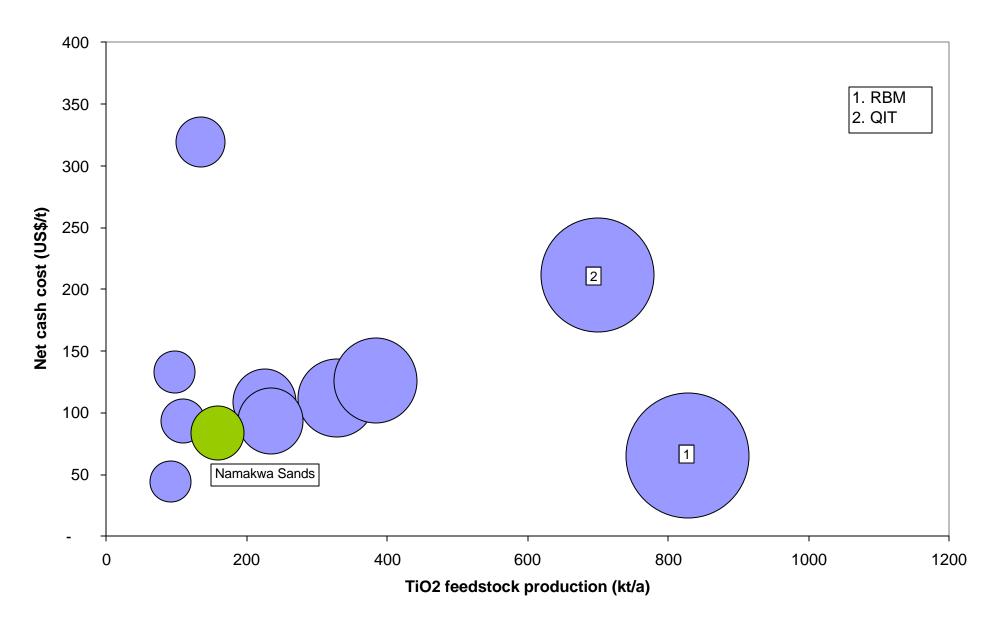
#### Catalao

- Strong position in niche market for niobium
- Underground mine life extension under review

## Summary of Mineral Sands & Niobium Portfolio

Asset	Country	Life	Holding	Strategy
Namakwa Sands	South Africa	35+	100%	Expand
Catalao	Brazil	20+	100%	Cash cow

## TiO<sub>2</sub> Assets



#### Project Pipeline: Namakwa Sands Expansion

- •Mineral resource available to expand operation from two to four furnaces whilst maintaining a +20 year life
- •A four furnace operation would produce ±400 kt/a slag and ±200 kt/a zircon
- Appraisal study being completed by Q4 2002
- •Expansion could be completed by mid-2006

Mining operations

Mineral separation plant





Slag tapping at smelter

### 2002 H1 Results

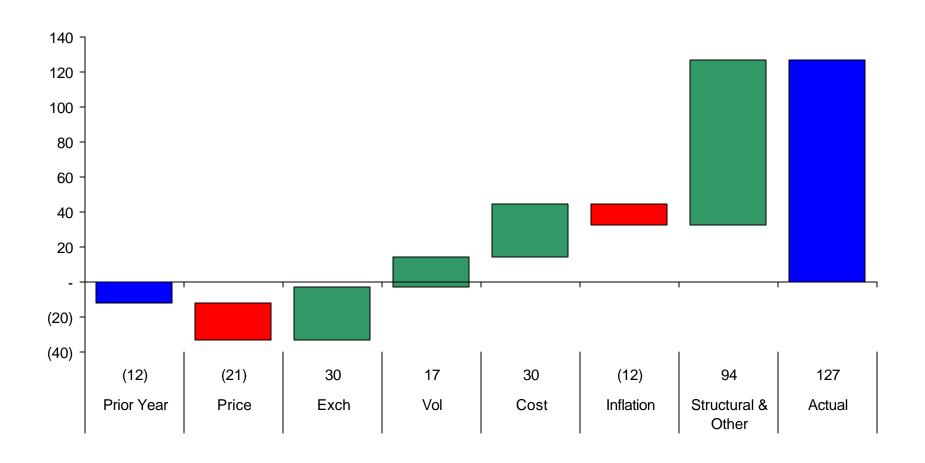
#### **Summary Financials H1 2002**

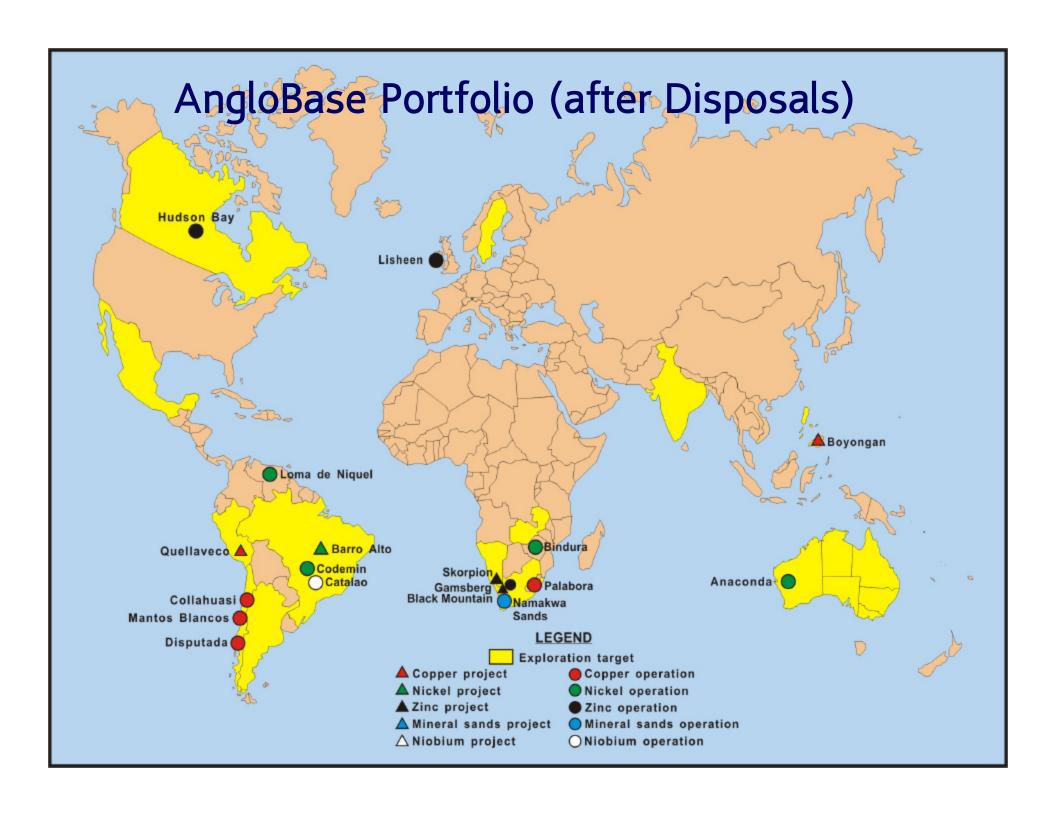
US\$m	2001	2001 H1	2002 H1
Revenue	1,530	792	663
Operating profit before exceptionals	(22)	(12)	80
Headline profit	(18)	(30)	37
ROCE	0%	0%	8%

Note: per AA plc UK GAAP

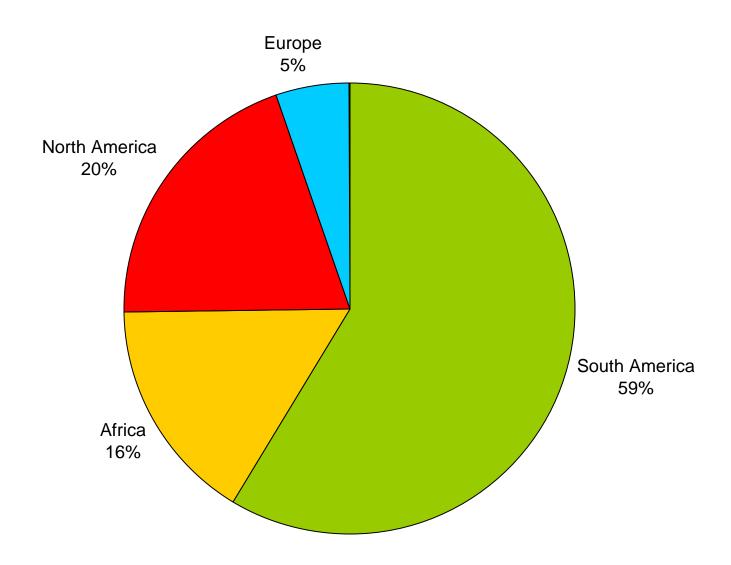
#### Variance: 2002 H1 vs 2001 H1

#### **Operating Profit**

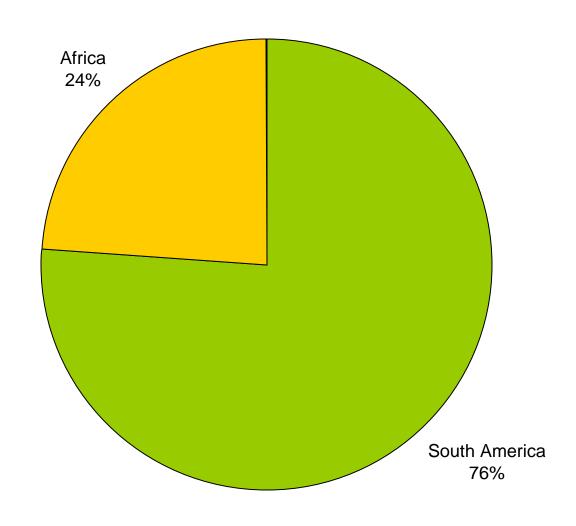




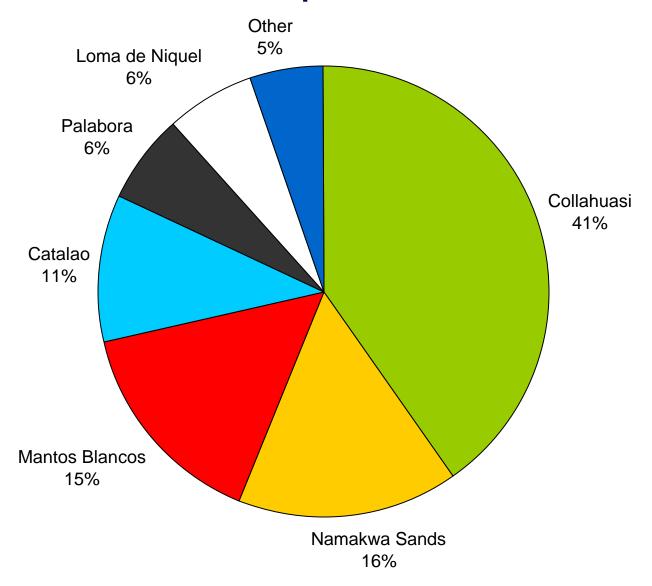
# 2002 H1 Revenue by Region (after Disposals)



# 2002 H1 Operating Profit by Region (after Disposals)



## 2002 H1 Operating Profit by Asset (after Disposals)



## Summary

#### Summary

- Major rationalisation of portfolio
- Management processes improved
- Strong focus on improving capital and operating efficiency
- Attractive expansion opportunities
- Well positioned to benefit from upturn in base metal prices
- But weak outlook for metal prices over the next 6-12 months



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