



# Aditya Birla Minerals Ltd

## Annual General Meeting

23 August 2012

Presentation by  
Sunil Kulwal,  
CEO & Managing Director

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All figures are expressed in Australian dollars unless stated otherwise.

## Competent Persons Statement

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The Information in this release that relates to exploration results is based on information compiled by Maurice Hoyle, a Fellow of the Australasian Institute of Mining and Metallurgy and Sean Sivasamy, a Member of the Australasian Institute of Mining and Metallurgy, both of whom are full time employees of the Company. Sean Sivasamy and Maurice Hoyle have sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which they are undertaking to qualify as Competent Persons as defined in the 2004 Edition of the Australasian Code for Reporting of Exploration Results.

The information in this report which relates to Mineral Resources for the Nifty and Mt Gordon operations is based on and accurately reflects reports prepared by Bullen in 2010, DataGeo and Sivasamy in 2012. The information in this report which Relates to Mineral Resources for the Maroochydhore project is based on and accurately reflects reports prepared by Bullen in 2010.

Mr Bullen, Mr Ball and Mr Sivasamy have the necessary experience relevant to the style of mineralisation, the type of deposit and the activity undertaken to qualify as a 'Competent Person' under the JORC Code for Reporting of Mineral Resources and Ore Reserves (2004 Edition). Mr Bullen, Mr Ball and Mr Sivasamy have given their consent to the inclusion of the material in the form and context in which it appears. Mr Bullen was an employee of Aditya Birla Minerals Limited during the period of the 2010 reporting. Mr Ball is Principal of DataGeo Geological Consultants (an independent geological consultancy). Mr Sivasamy is a full time employee of Aditya Birla Minerals Limited.

# Company Highlights

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One of very few Dividend paying copper producer

Strong financial strength, sound strategy and operational discipline see us well placed for further growth

Part of prestigious Aditya Birla Group and backed up by Hindalco, the world's largest metal power house, strengthens our position in copper market

Board having diverse range of collective experience of over 200 years

Owns two high grade copper mines

## ABY: Company snapshot

Ordinary shares on issue

• 313,372,551

Share Price at 17 August 2012

• A\$ 0.40 cents

Market Capitalisation

• A\$ 125m

Revenue

• A\$ 496 million

Gross Profit

• A\$ 56 million

NPAT

• A\$ 27 million

Dividend

• 5 cents unfranked for FY12



# ABY's Board has a diverse range of experience

## Mr Debu Bhattacharya Non-Executive Chairman

- Joined Aditya Birla Group in 1998 and Heads the Group's metals business and MD of Hindalco Industries.; Vice Chairman of Novelis and Chairman of Utkal Alumina International Ltd.
- Extensive experience with the Group internationally and spend 30 years with Unilever in executive management positions, including leading the chemical business of Unilever in India
- Recipient of prestigious **India Business Leader of the Year Award (IBLA) 2005; The Asia Corporate Citizen of the Year Award (ABLA) 2005** and **LEXI Award 2007 for Strategic & Leadership Excellence.**
- Bachelor of Technology with Honours in Chemical Engineering

## Dr Sunil Kulwal CEO & Managing Director

- Over 25 years various industries experience in technical and senior executive positions.
- Track record of turning around industries through a participative management culture and providing strategic direction. Presented various papers at international conferences and is a Chevening Scholar.
- Previously Executive President of Grasim Industries Limited, Chemical Division, a subsidiary within the Global Aditya Birla Group, where, he was responsible for developing a US\$900 million new Chemical Complex.
- B.Com, Chartered Accountant, Company Secretary, Doctor of Philosophy (Ph.D.)

## Mr Mysore Prasanna Non-Executive Director

- Over 27 years experience with organisations including Alfa Laval, Brook Bond India Ltd and Larsen & Toubro Ltd.
- Joined the Group as President, Corporate Legal Cell and instrumental in establishing the Corporate Legal Cell for the Group and has been a Director of a number of companies.
- Currently, Adviser to the Managing Committee of Bombay Chamber; Co-Chairperson of the Legal Affairs Committee of Associated Chambers of Commerce and Industry of India; Advisory Board of Corporate Law Committee of the Federation of Indian Chamber of Commerce & Industry and appointed by the Singapore International Arbitration Centre as an Arbitrator on its panel of Indian Arbitrators.
- Recipient of the **Best In-House Counsel award by Asia Law**, Hong Kong in 2005 and 2007, Conferred the prestigious **National Law Day Award** by the Hon'ble Prime Minister of India in 2006.
- Bachelor of Science, Master of Law, Member of the International Bar Association and Vice Chair of Corporate Council Forum

## Dr Suresh Bhargava Independent Non Executive Director

- Over 20 years Australian resources experience on various aspects of mineralogy and hydrometallurgy and environmental issues including technology development. Previously worked on various projects with Alcoa, BHP Billiton and Rio Tinto (Comalco)
- Currently Professor and Chair of Industrial Chemistry at RMIT University ; Director of the Integrated Victorian XRD and Materials Characterisation Facility and the RMIT Vibrational Spectroscopy Facility.
- Among many distinguished awards and achievements throughout his career, received the **2006 Vice-Chancellors highest Award for Research Excellence, R K Murphy Award** - the most coveted industrial chemistry award in Australia by Royal Australian Chemical Institute.
- Doctor of Philosophy (Applied Science): D.Sc (RU) & Fellow of Royal Australian Institute of Chemistry

Integrity

Commitment

Passion

Seamlessness

Speed

# ABY's Board has a diverse range of experience

## Mr Maurice Anghie Independent Non-Executive Director

- Experienced, qualified professional possessing an extensive range of commercial and financial skills. Having worked extensively in the listed corporate environment, he possesses legal, regulatory and governance expertise.
- Previously Audit and Corporate Finance Partner in many Chartered Accounting Firms. Currently an Independent Corporate consultant and a Non-Executive Director of Gujarat NRE Coking Coal Ltd.
- Bachelor of Business, Fellow Chartered Accountant, Fellow Certified Practising Accountant, Member of the Australian Institute of Company Directors

## Mr Narayan Krishnan Independent Non-Executive Director

- Over 36 years industrial experience in the field of non-ferrous extractive metallurgy including operations management, technical development and process design.
- Previously worked in various senior executive positions at global mining companies including MIM Holdings, Pasminco and was Group Advisor Metallurgy at WMC Resources Ltd, role included operations review, operations support, strategy input, technical advice to copper, nickel and fertiliser business and the management of external research projects.
- Currently runs a private technical consultancy firm, OM Metals Trust Pty Ltd, providing high level technical advice and strategy input to large mining companies.
- Master of Science – Geoscience, Bachelor of Technology – Metallurgy (First Class), Member of the Australasian Institute of Mining and Metallurgy.

## Mr Dilip Gaur Non-Executive Director

- Chemical Engineer with over 32 years experience in leadership positions in a cross section of Industries spanning Petroleum Refining, Petro chemicals, FMCG, speciality & Industrial chemicals, Fertilisers & Agriproducts, Nonferrous metals, oils & chemical in India, Malaysia & Egypt.
- Currently heads the Copper Business of Hindalco as a Group Executive President.
- Prior to this he was Managing Director of Aditya Birla Group's Carbon black business in Egypt – an Indo-Egyptian JV. Previously he held various positions spanning 24 years at Unilever.
- Outstanding track record of building robust businesses, turning around fledging ones and delivering exceptional results under challenging conditions in a multi cultural – multi geographic context.
- On the Board of various companies and active member of several Industry bodies in India, Malaysia , Egypt including ABY's subsidiary, Birla Mt Gordon.
- Bachelor of Technology in Chemical Engineering.

# Hindalco Industries – Cornerstone of Growth

*Backed by the world's largest metals powerhouse strengthens our position in the copper market*



**An industry leader in aluminium and copper**

- ✧ alumina chemicals
- ✧ primary aluminium
- ✧ aluminium extrusions
- ✧ aluminium rolled products
- ✧ foil and packaging
- ✧ copper cathodes
- ✧ continuous cast copper rods
- ✧ precious metals
- ✧ DAP and NPK complexes (fertilisers)
- ✧ acids



Integrity

Commitment

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Speed



# Aditya Birla Group – Global Leader

**RANKED**  
**4TH IN THE WORLD**  
**1ST IN ASIA-PACIFIC**  
**IN THE 'TOP COMPANIES**  
**FOR LEADERS' STUDY**  
**(BY AON HEWITT, THE RBL GROUP AND FORTUNE)**

MADE POSSIBLE BY **1,33,000 LEADERS**



**ADITYA BIRLA GROUP**

*Of leaders*

The Top Companies for Leaders study (2011) is the most comprehensive global research on leadership in the market, examining the link between leadership practices and financial results. The study was conducted by Aon Hewitt, a global human resource consulting and outsourcing enterprise, in association with The RBL Group, an advisor to the world's top companies and Fortune, the global business magazine.

GROUP COMPANIES: Hindalco Industries Ltd • Novelis Inc • Aditya Birla Minerals Ltd • Grasim Industries Ltd • UltraTech Cement Ltd • Idea Cellular Ltd • Aditya Birla Nuvo Ltd • Aditya Birla Money Ltd • Birla Sun Life Insurance Co Ltd • Birla Sun Life Asset Management Co Ltd • Aditya Birla Finance Ltd • Aditya Birla Natural Resources • Aditya Birla Retail Ltd • Aditya Birla Chemicals • Domsjö Fabriker • AV Cell Inc • AV Nackawic Inc • Thai Rayon Public Co Ltd • PT. Indo Bharat Rayon • Birla Jingwei Fibres Co Ltd • Columbian Chemicals • Thai Carbon Black Public Co Ltd • Alexandria Carbon Black Co • Thai Acrylic Fibre Co Ltd • Alexandria Fiber Co • Indo Thai Synthetics Co Ltd • PT. Elegant Textile Industry • PT. Sunrise Bumi Textiles • PT. Indo Liberty Textiles • Indo Phil Group of Companies • Swiss Singapore Overseas Enterprises Pte Ltd • Aditya Birla Minacs Worldwide Ltd

Integrity

Commitment

Passion

Seamlessness

Speed

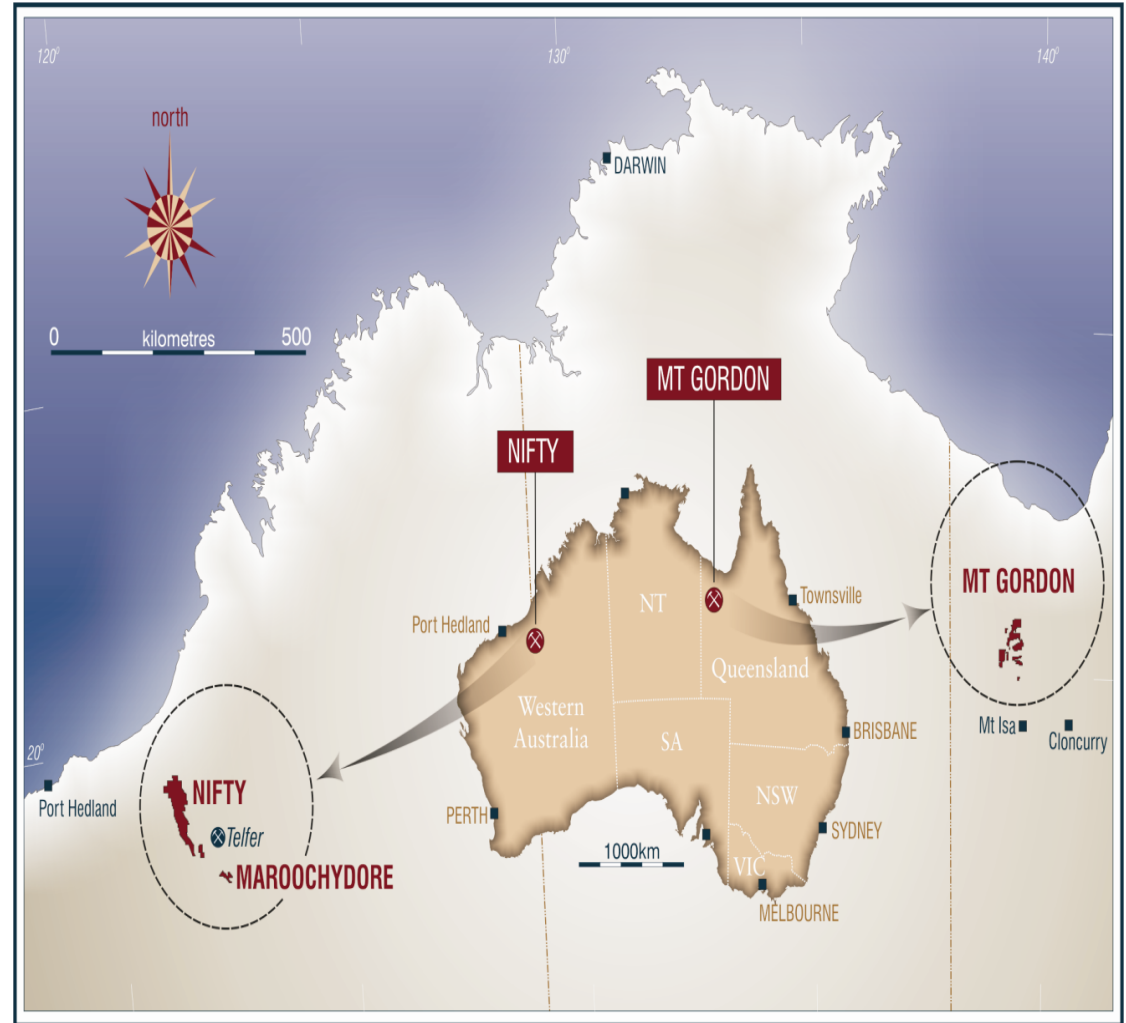
# Aditya Birla Minerals

## Nifty Operations

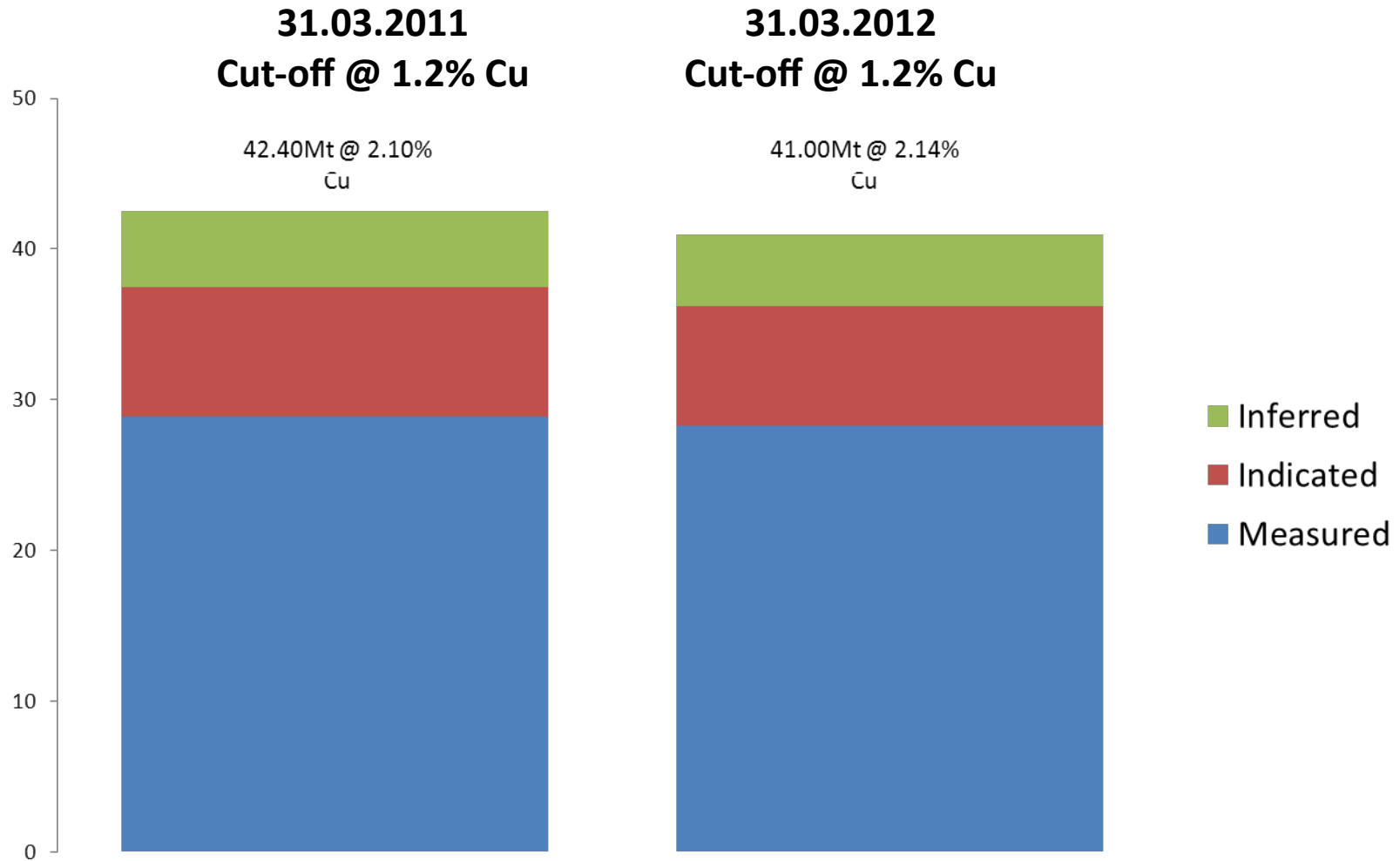
- Great Sandy Desert Region of the East Pilbara in Western Australia, approx 1,250 km north of Perth and 350 km east of Port Hedland.
- Acquired the Nifty operation in March 2003 for the large undeveloped sulphide resource.
- Nifty mine has a capacity of 2.3 mtpa and the concentrator plant has a capacity of 2.5 mtpa.

## Mt Gordon Operations

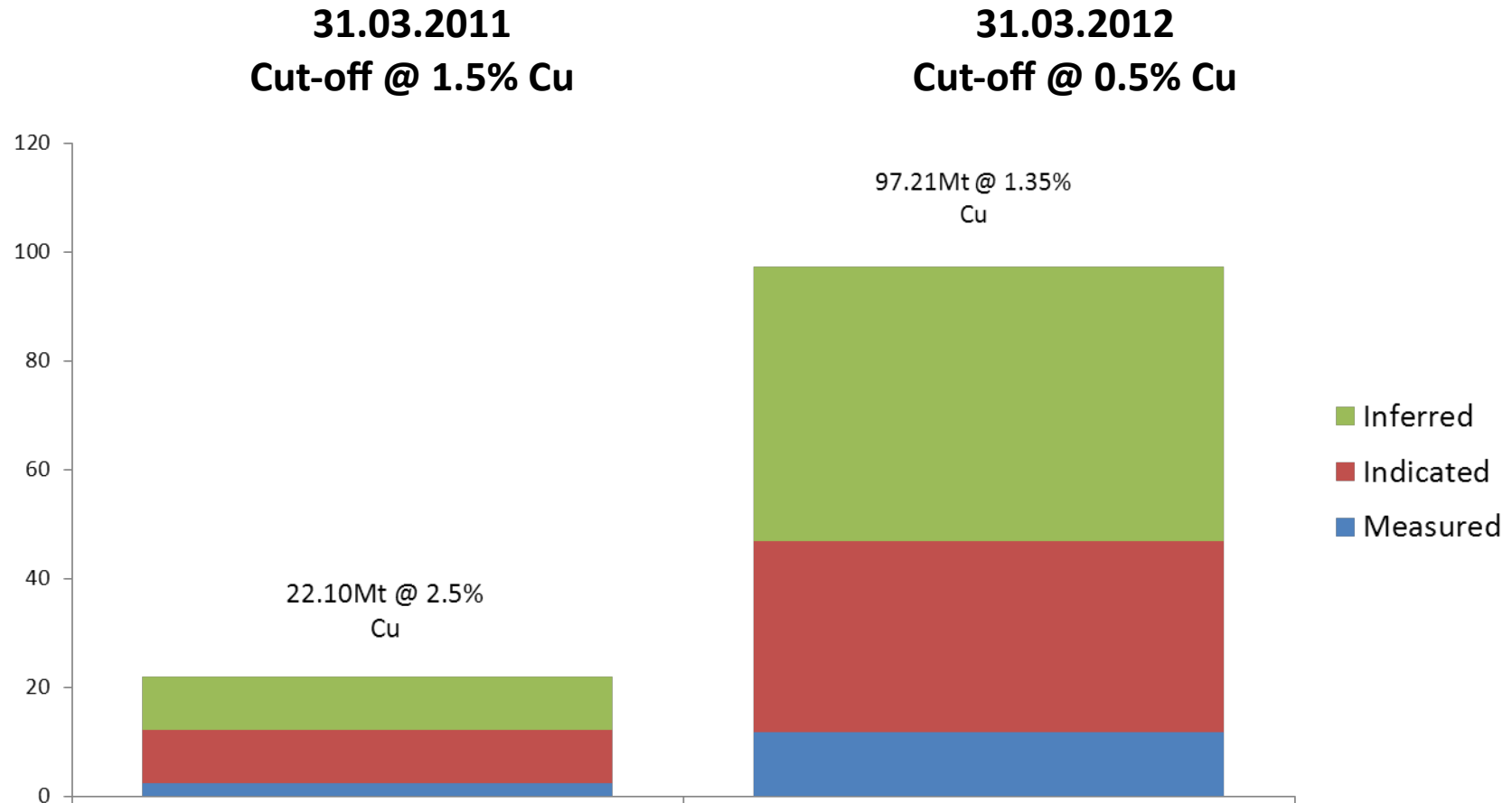
- Located in northwest Queensland, approximately 120 km north of Mt Isa
- Purchased the Mt Gordon copper operation in Queensland in November 2003.
- The operation has ability to mine 1.2 mtpa of ore from Mammoth underground decline operation.



# Nifty –Mineral Resource (With Oxide)

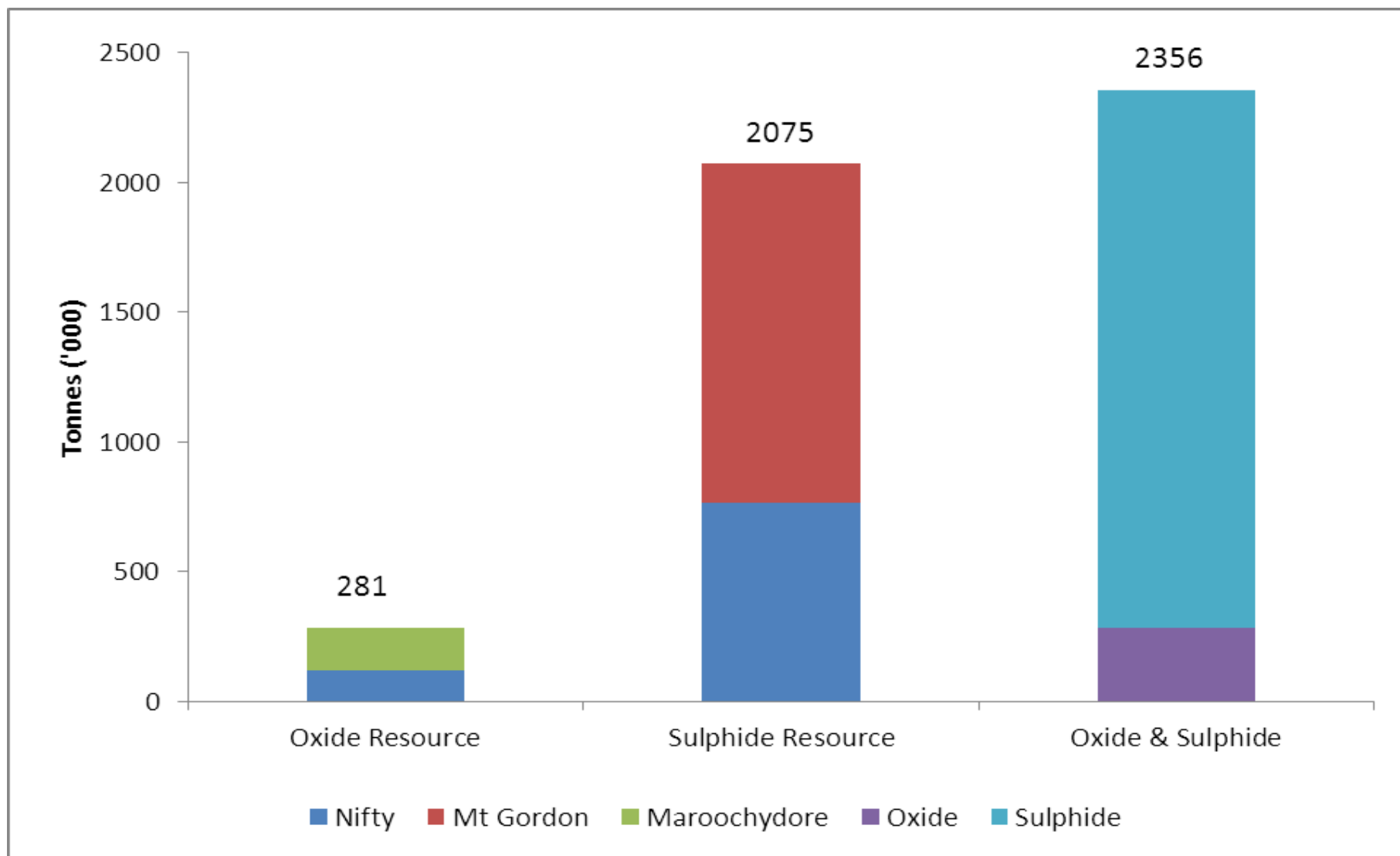


# Mt Gordon – Mineral Resource



Resource base updated at Mt Gordon based upon work done by mining and geological consultants.

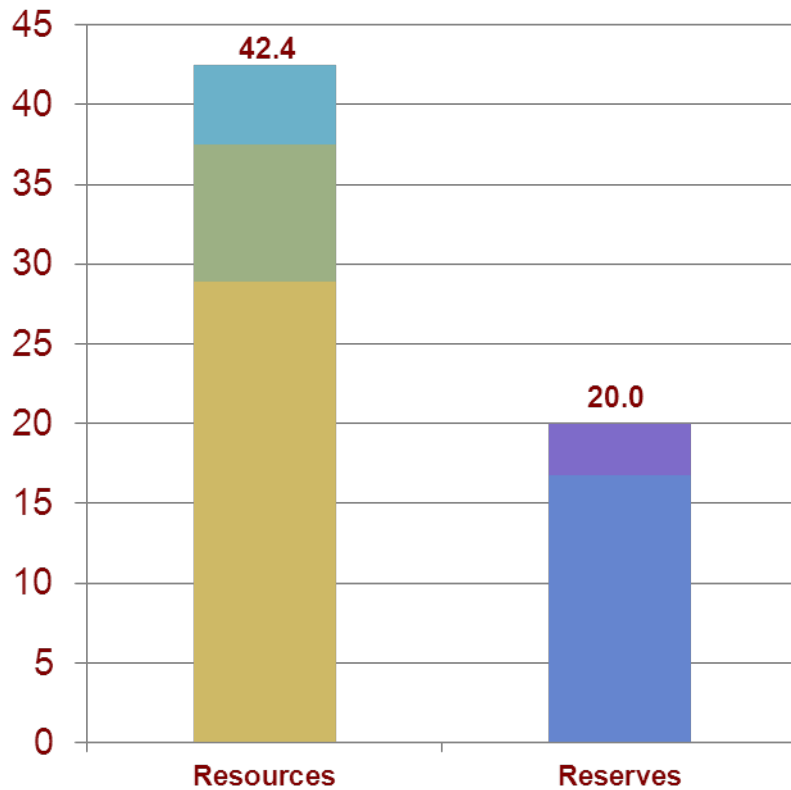
# ABML – Contained Copper in Resource as at 31.03.2012



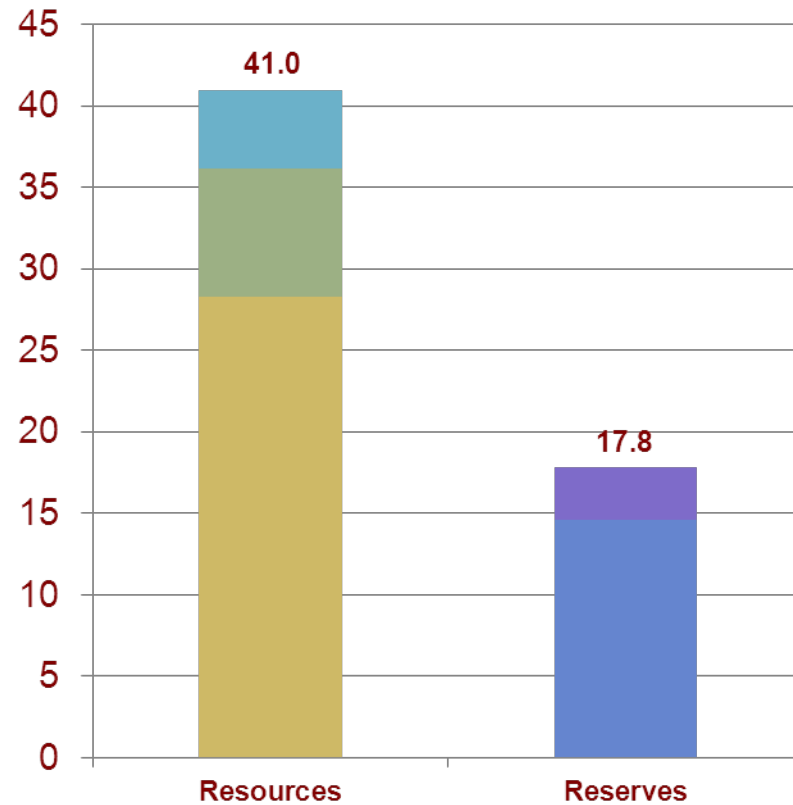


# Nifty Resources and Reserves \*

As at 31<sup>st</sup> March 2011



As at 31<sup>st</sup> March 2012

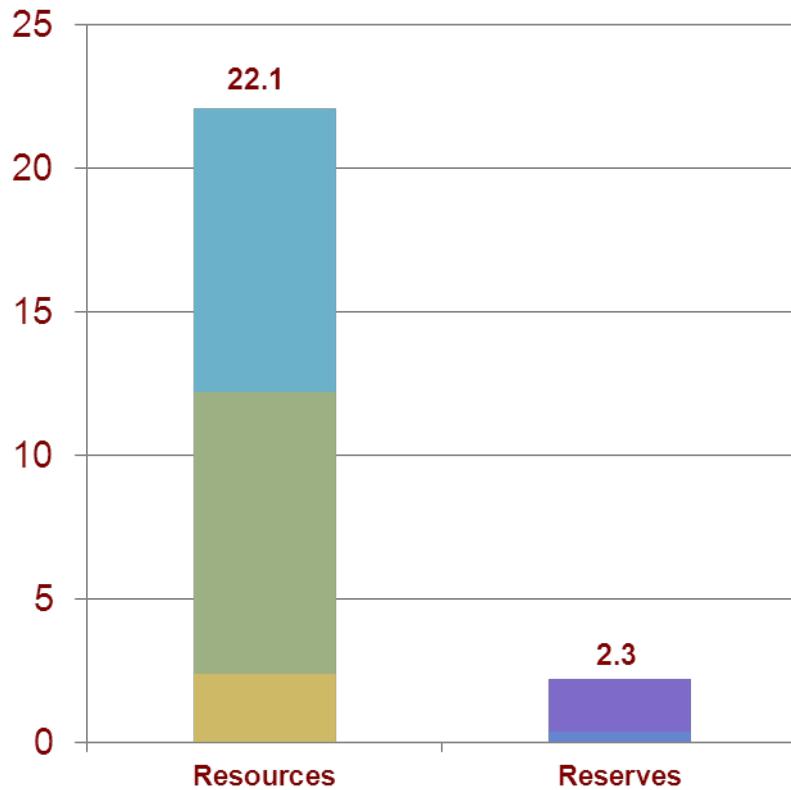


■ Measured
■ Indicated
■ Inferred
■ Proven
■ Probable

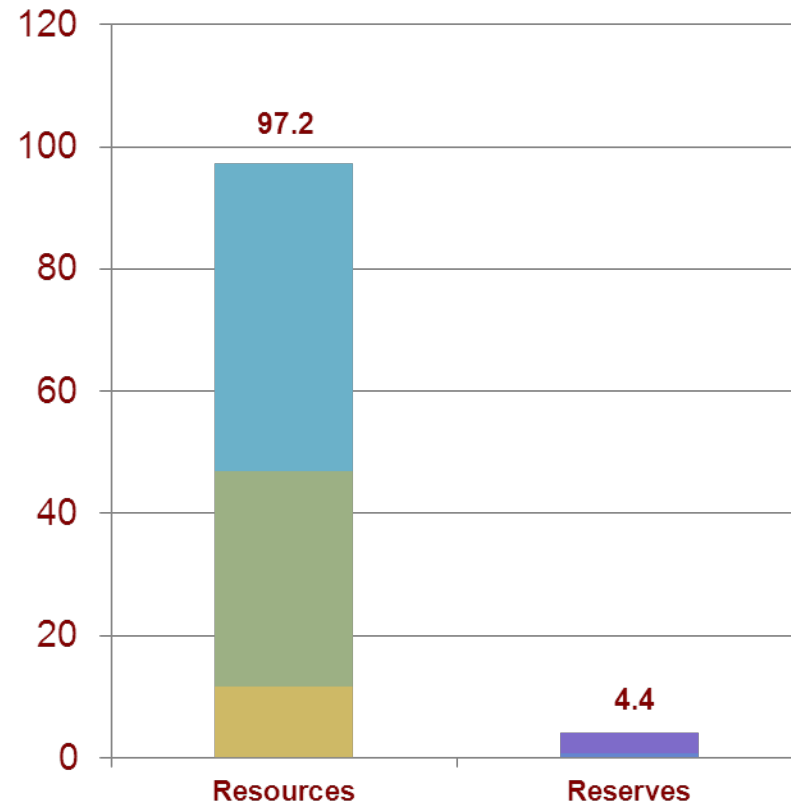
Resources Include both oxides and sulphides. Reserves are shown for sulphide only \* Details as per Annexure A & B

# Mt Gordon Reserves and Resources\*

**As at 31<sup>st</sup> March 2011**



**As at 31<sup>st</sup> March 2012**



■ Measured

■ Indicated

■ Inferred

■ Proven

■ Probable

\* Details as per Annexure A & B

## FY12 Operational Highlights

### Ore Mined

- 28.3% increase in Ore mined: Mined 2.81 million tonnes of ore as compared to 2.19 million tonnes last year

### Ore processed

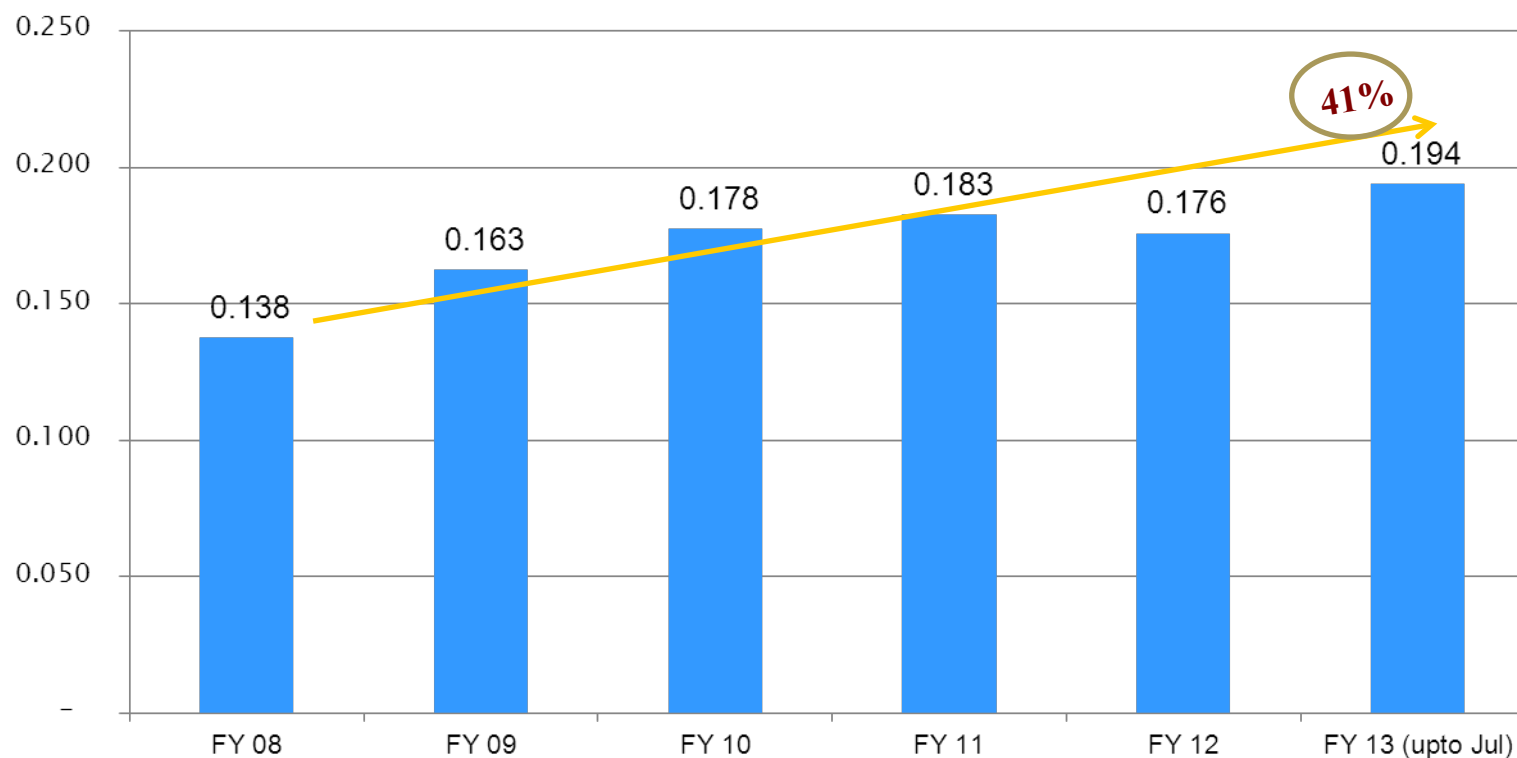
- 9.9% growth in Ore processed: Processed 2.77million tonnes of ore as compared to 2.52 million tonnes last year

### Copper production

- Copper production 59,707 tonnes versus 59,661 tonnes last year

# Nifty Ore Mined

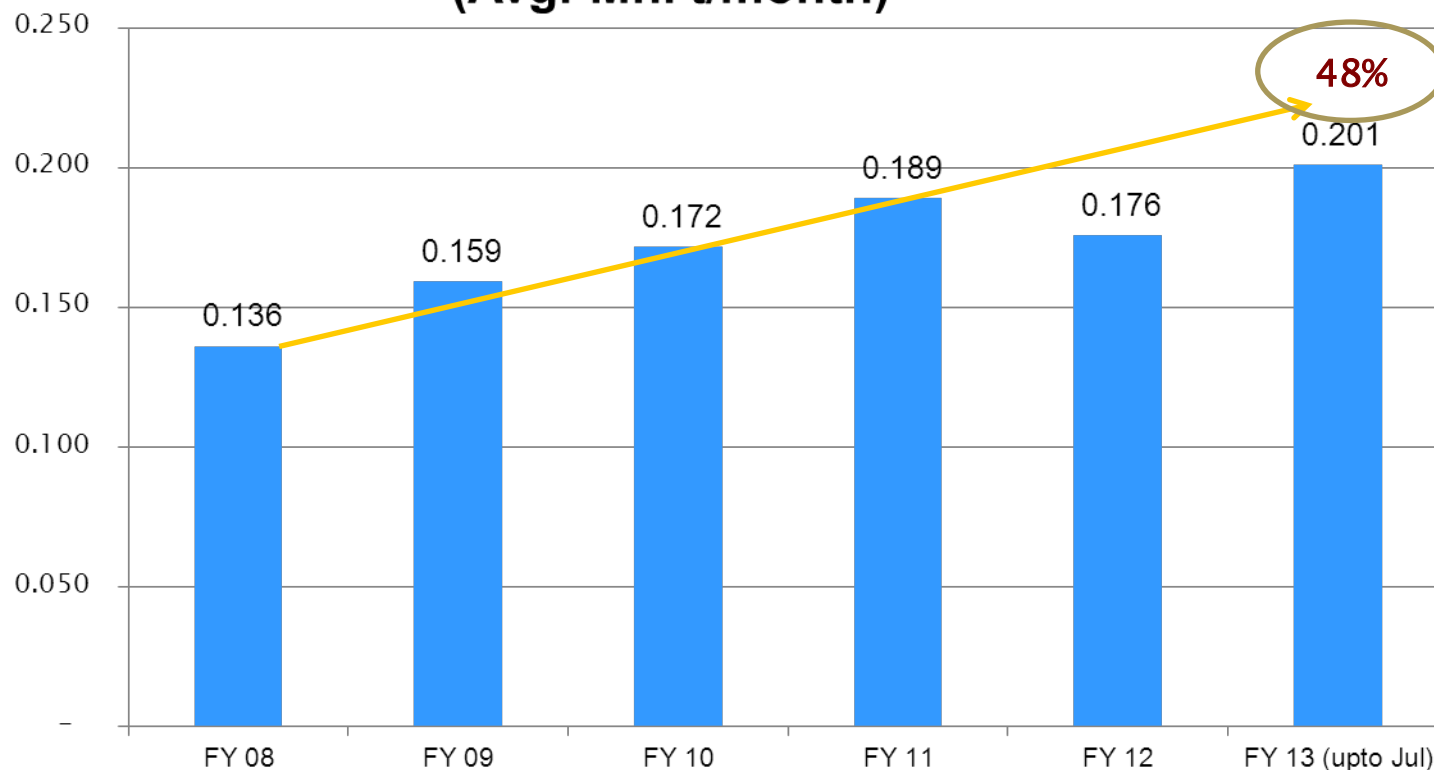
Nifty- Ore Mined  
(Avg. Mn. t/month)



**Average monthly Mine productivity has improved consistently**

# Nifty Ore Processed

Nifty- Ore Processed  
(Avg. Mn. t/month)

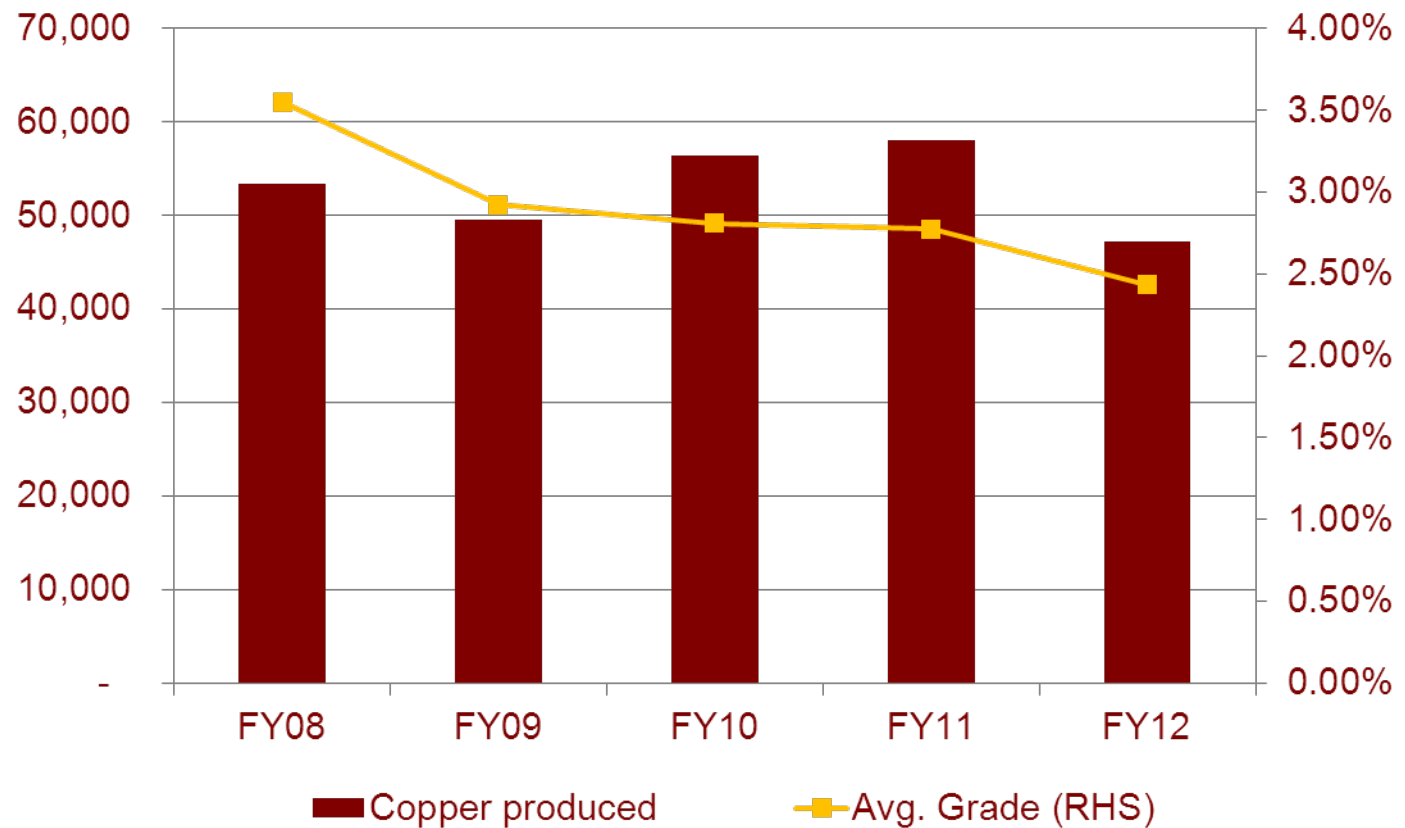


**Average monthly Mill productivity improved consistently. Current year's average of 201KT is the best ever achieved in mine history**



# Nifty Copper Production

**Copper Production (MT) and Head Grade**



**Impact of reducing copper grade has been partly offset by improvement in productivity**

# Nifty C1 Cost

A cents/lbs

NIFTY C1 COST	Q1 FY13	FY12
Total Site Cash Cost	227	214
Shipping Cost	17	16
Tc/Rc	16	15
C1 cost	260	245

**Booming resource sector in Australia is putting up cost pressures which is being countered partially by improvement in productivity and cost optimization initiatives**

# Nifty: Key Focus Areas

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➤ **Productivity improvement**

- ❑ Plan to increase the mine output to 2.7 mn MTPA

➤ **Cost optimization**

- ❑ Review and rationalize resources (Manpower and Equipment)
- ❑ Review procurement strategy for major items and services
- ❑ Complete cost review exercise is in progress, will be completed by 31st Oct 2012 to identify cost saving opportunities

➤ **Mine Development**

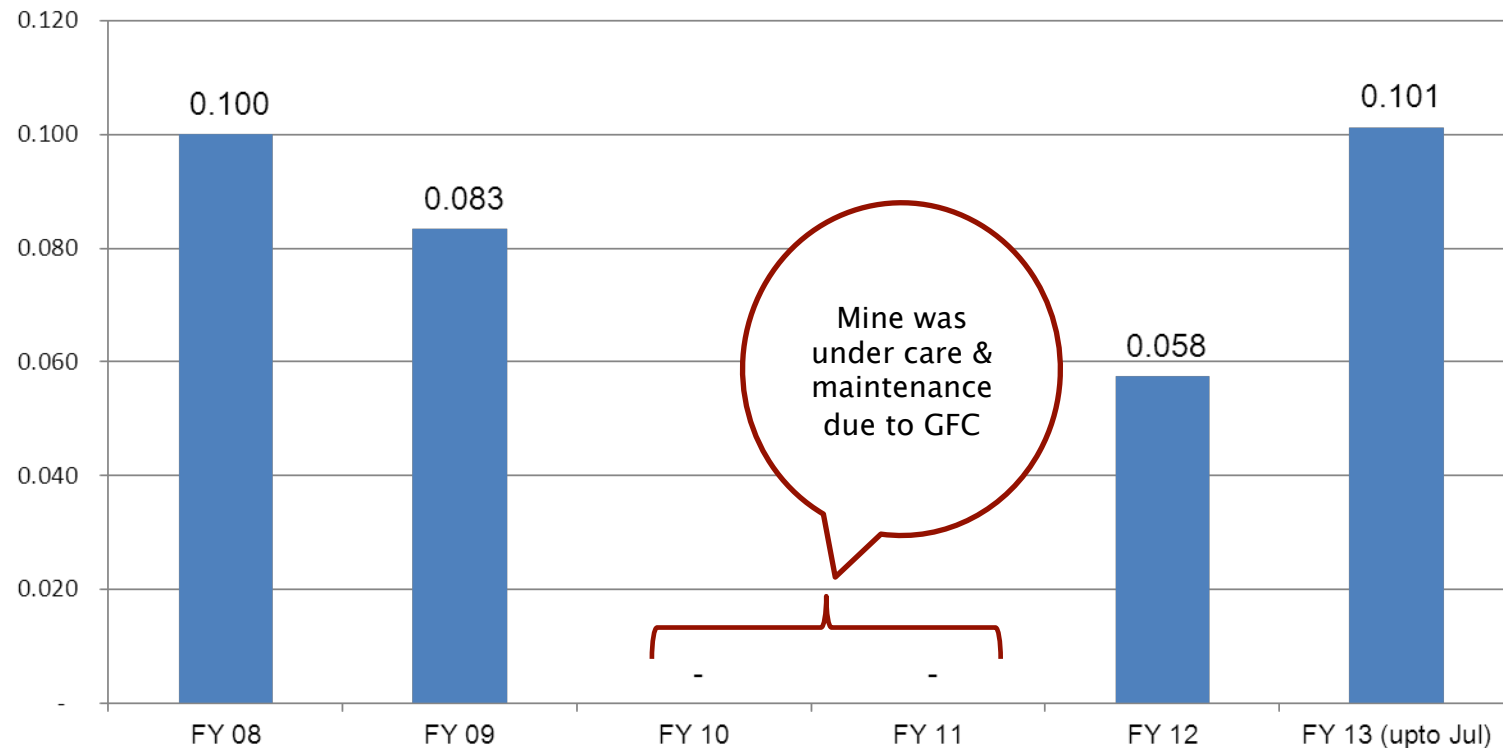
- ❑ Development has progressed to access mine areas outside the checkerboard

➤ **Mobile Fleet upgrade**

- ❑ New Atlas trucks delivered last year helping in improving mining efficiencies
- ❑ All new CAT loaders have been delivered and have started performing as per expectations

# Mt Gordon Ore Mined

**MGO- Ore Mined  
(Avg. Mn. t/month)**

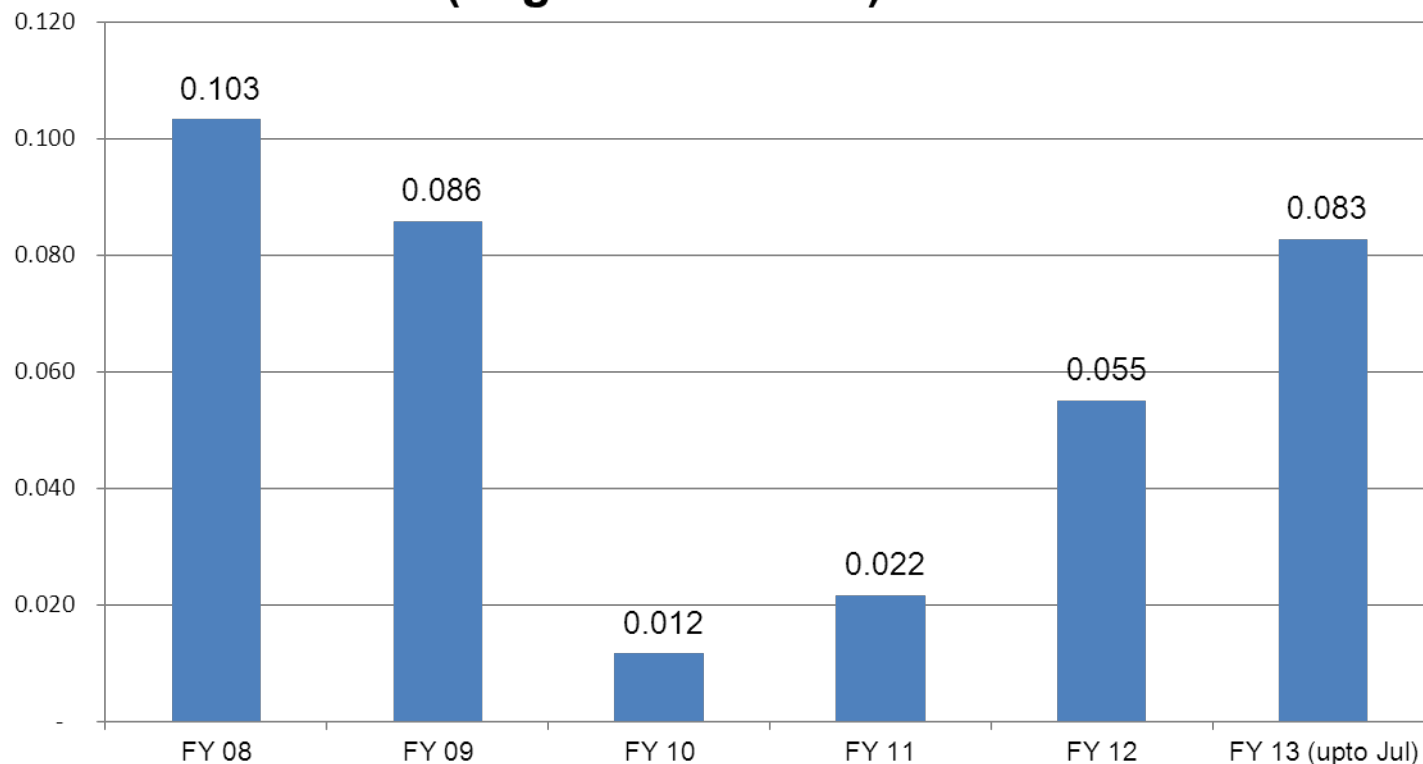


**Production from Mammoth mine has progressed well and has reached pre-C&M levels**



# Mt Gordon Ore Processed

**MGO- Ore Processed  
(Avg. Mn. t/month)**

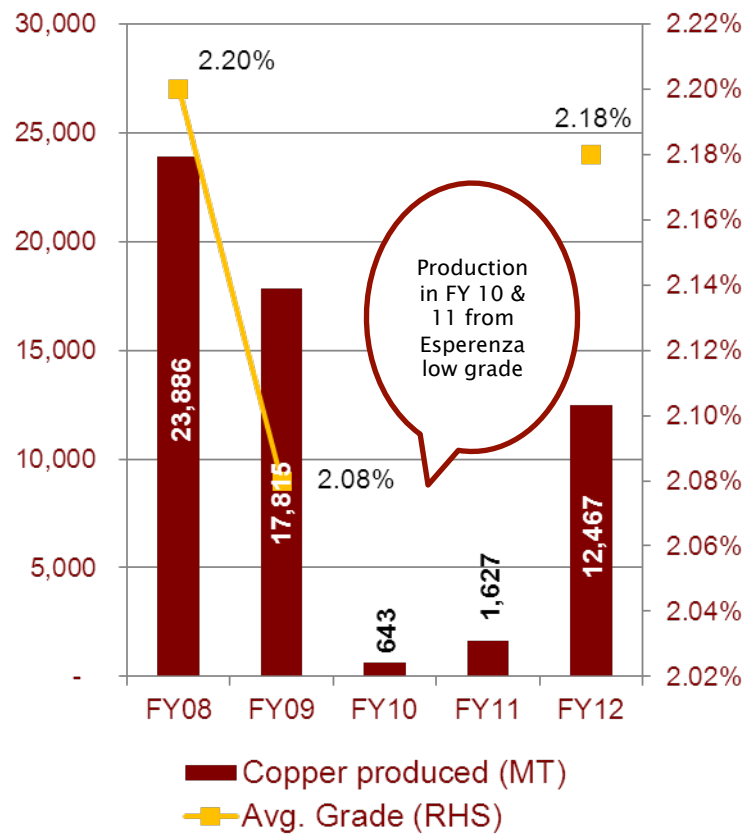


**Power outage at Mica Power station in Q1 FY13 has impacted the throughput. The power has since been restored.**

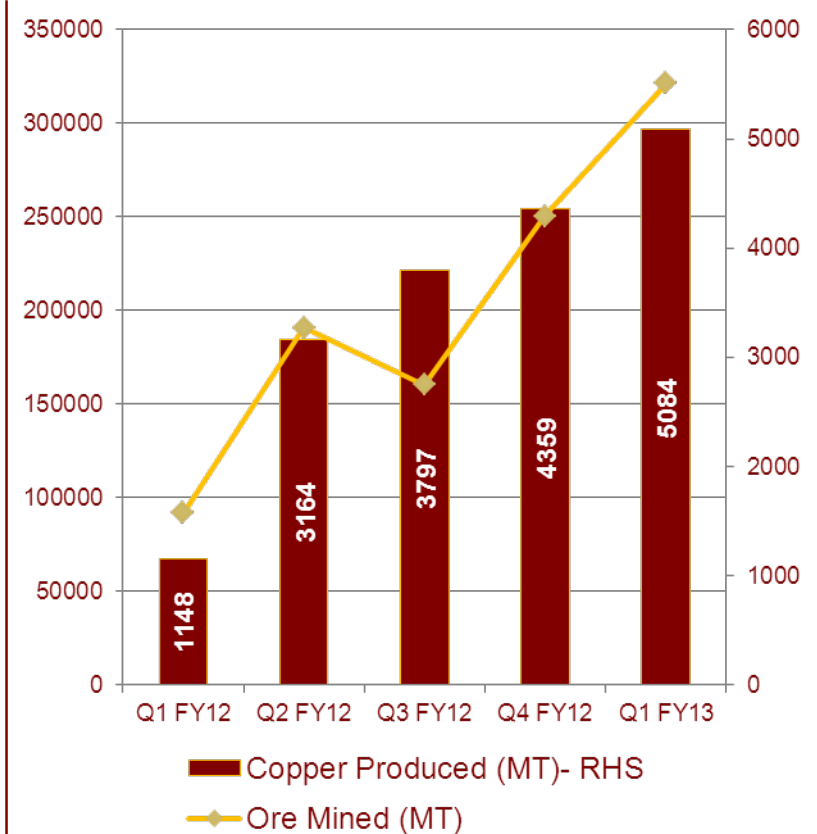


# Mt Gordon Production

**Copper Production (MT) and Head Grade**



**Copper Production (MT) and Ore Mined**



**Copper production in Q1 FY13 is higher by 17% QoQ**

# Mt Gordon C1 Cost

A cents/lbs

NIFTY C1 COST	Q1 FY13
Total Site Cash Cost	278
Shipping Cost	58
Tc/Rc	21
C1 cost	357

**Cost for Q1 FY13 was high due to lower production arising out of abnormal power outage from Mica Creek power station**

# Mt Gordon: Key Focus Areas

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➤ **Mine life**

- ☐ Develop Esperanza South mine
- ☐ Extend Mammoth mine

➤ **Cost optimization**

- ☐ Review and rationalize resources (Manpower and Equipment)
- ☐ Review procurement strategy for major items and services

➤ **Resources and Reserves**

- ☐ Scoping study based on new resource model is being carried out by an external consultant which is likely to increase the mine life

➤ **Productivity Improvement**

- ☐ Improvement in mill throughput achieved upto 180 tph and options being evaluated to improve further.

# Geology and Exploration Overview



## Significant Outcomes 2012:

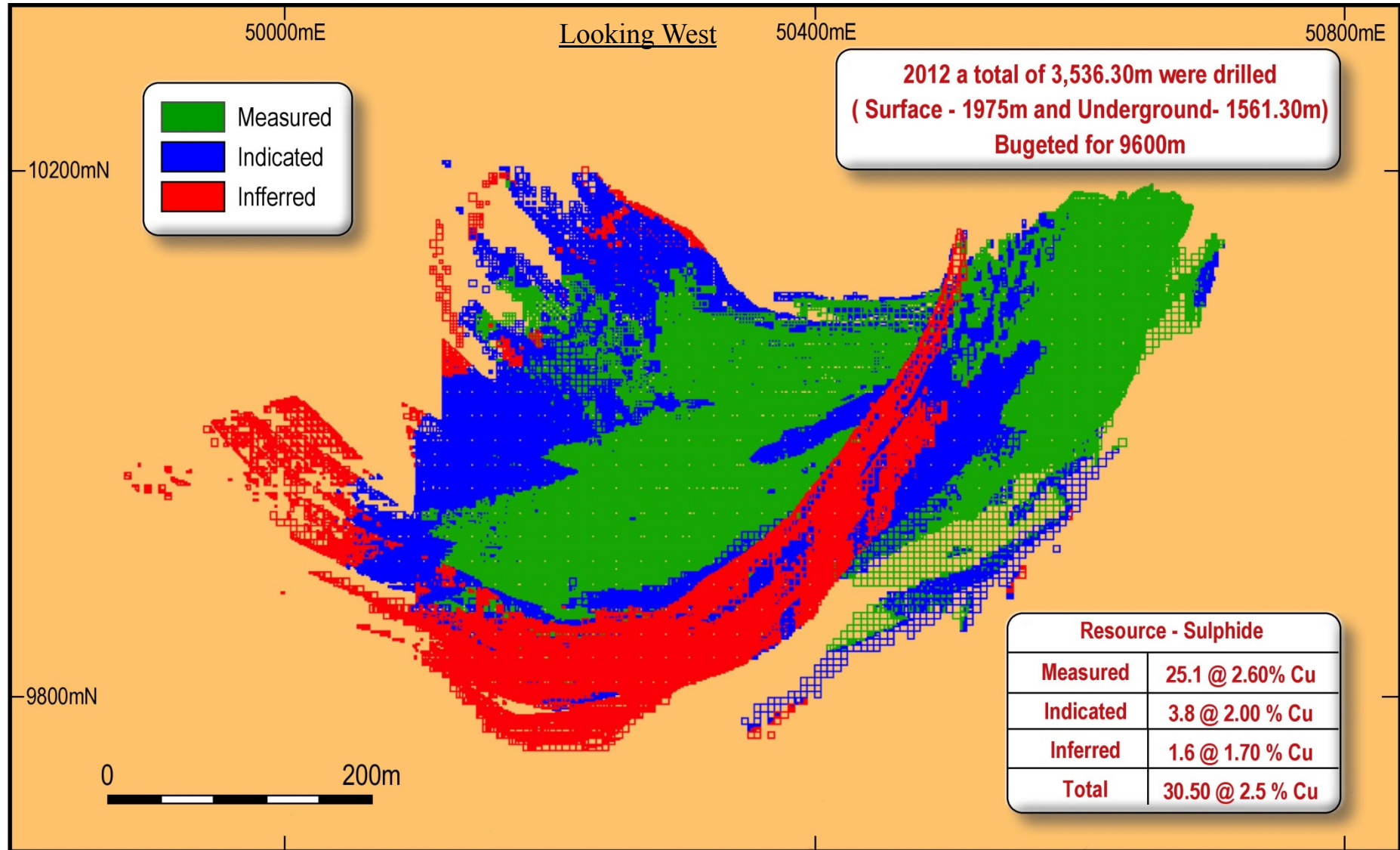
- Nifty Resource and Reserve Definition update completed.
- Nine VTEM targets were drilled. Three holes intersected copper sulphides. DHEM completed for all holes.
- Greenstone maiden resource delineation.
- Maroochydore sulphide mineralisation extended 500m; remains open in all directions.

## Planned for 2012-2013:

- 22,986 metres drilled by July out of total 40,000 metres planned for full year.
- Nifty – 3,536.00m (Surface near mine 1975m and Underground 1560m)
- Maroochydore- 8,850m
- Mt Gordon -10,600m (Greenstone 650m, Greenstone East 1,190m, Mammoth North 2,180m, Esperanza South 690m Mammoth UG 5,500 and Regional 390m )

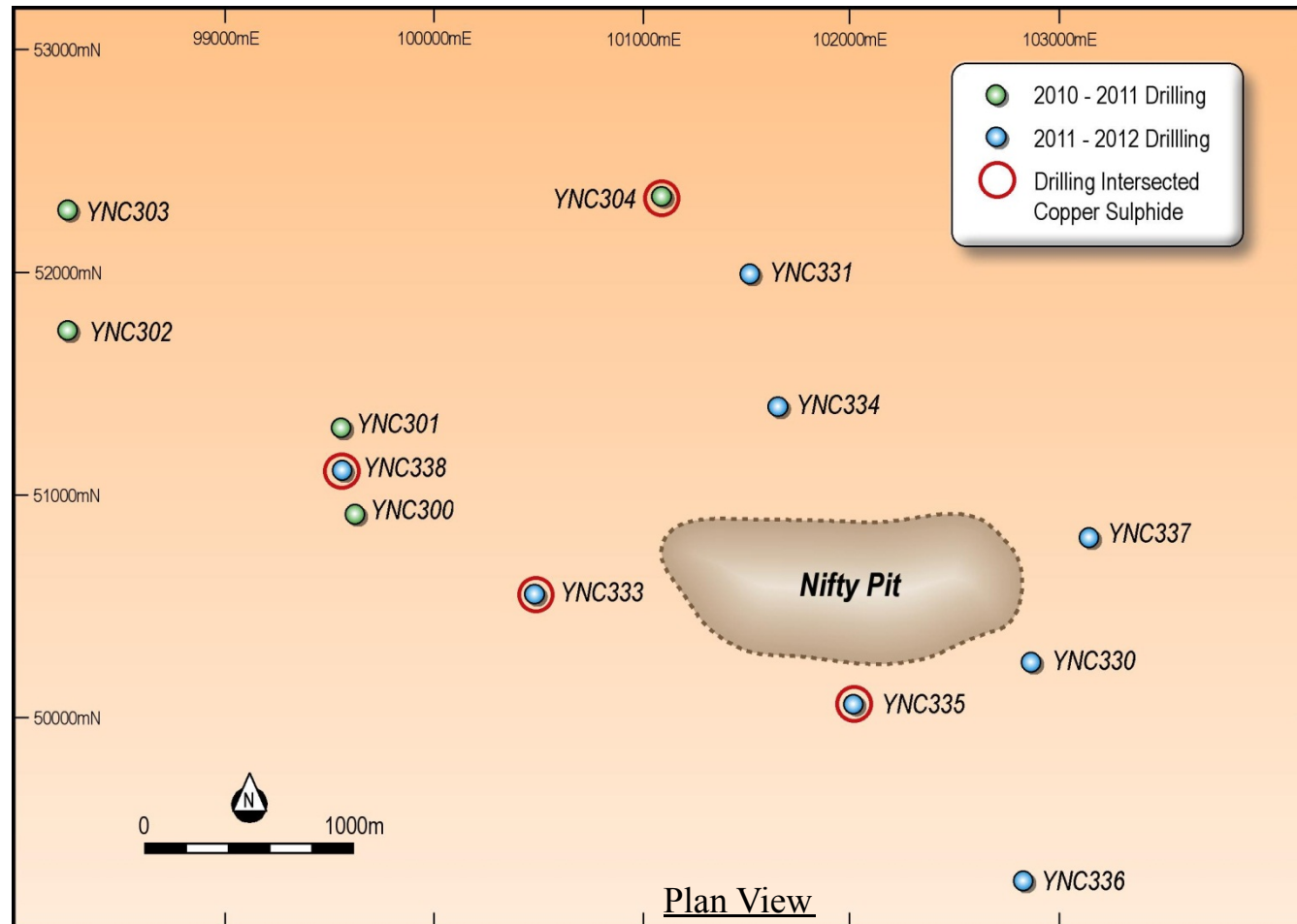


# Nifty – Resource Geology





# Nifty – Near Mine follow-up drilling



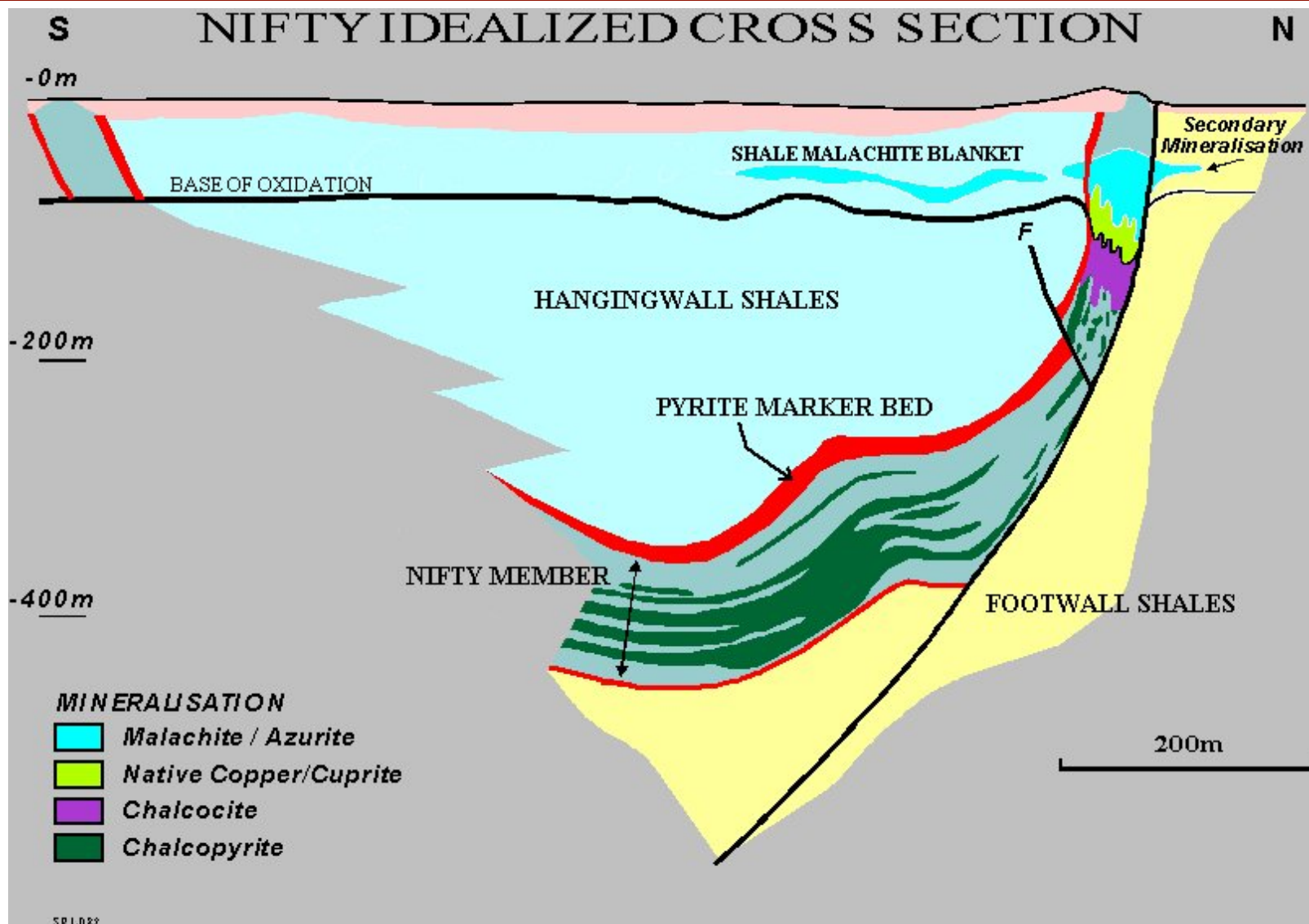
During 2012-2013 a total of 9,600m is planned for near mine exploration and resource extension drilling.

## 2012-13 Near Mine Drilling

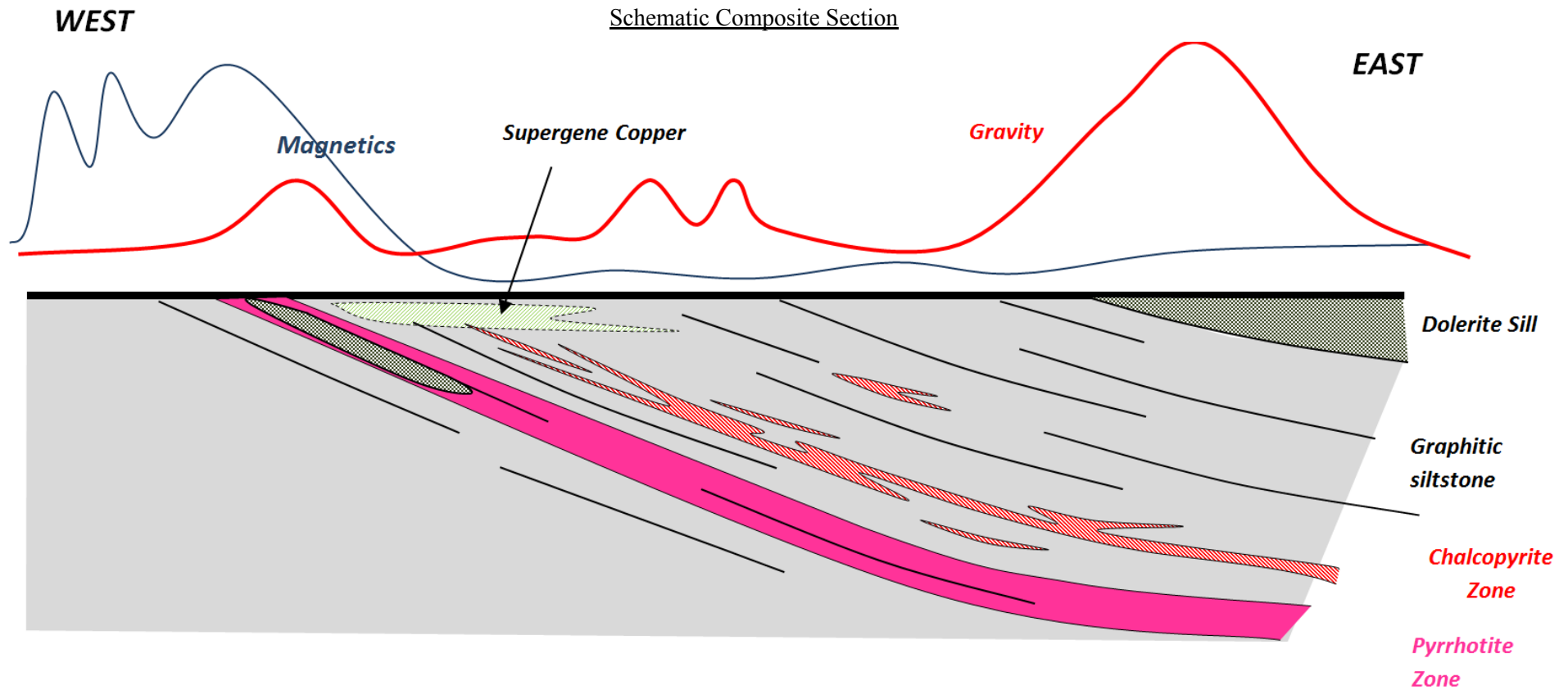
9 Diamond holes 1975m have been drilled, 3 holes intersected copper sulphide mineralisation YNC333, YNC335, YNC338

1561m resource extension drilling were completed at Southern Limb

# Birla Nifty Regional Exploration

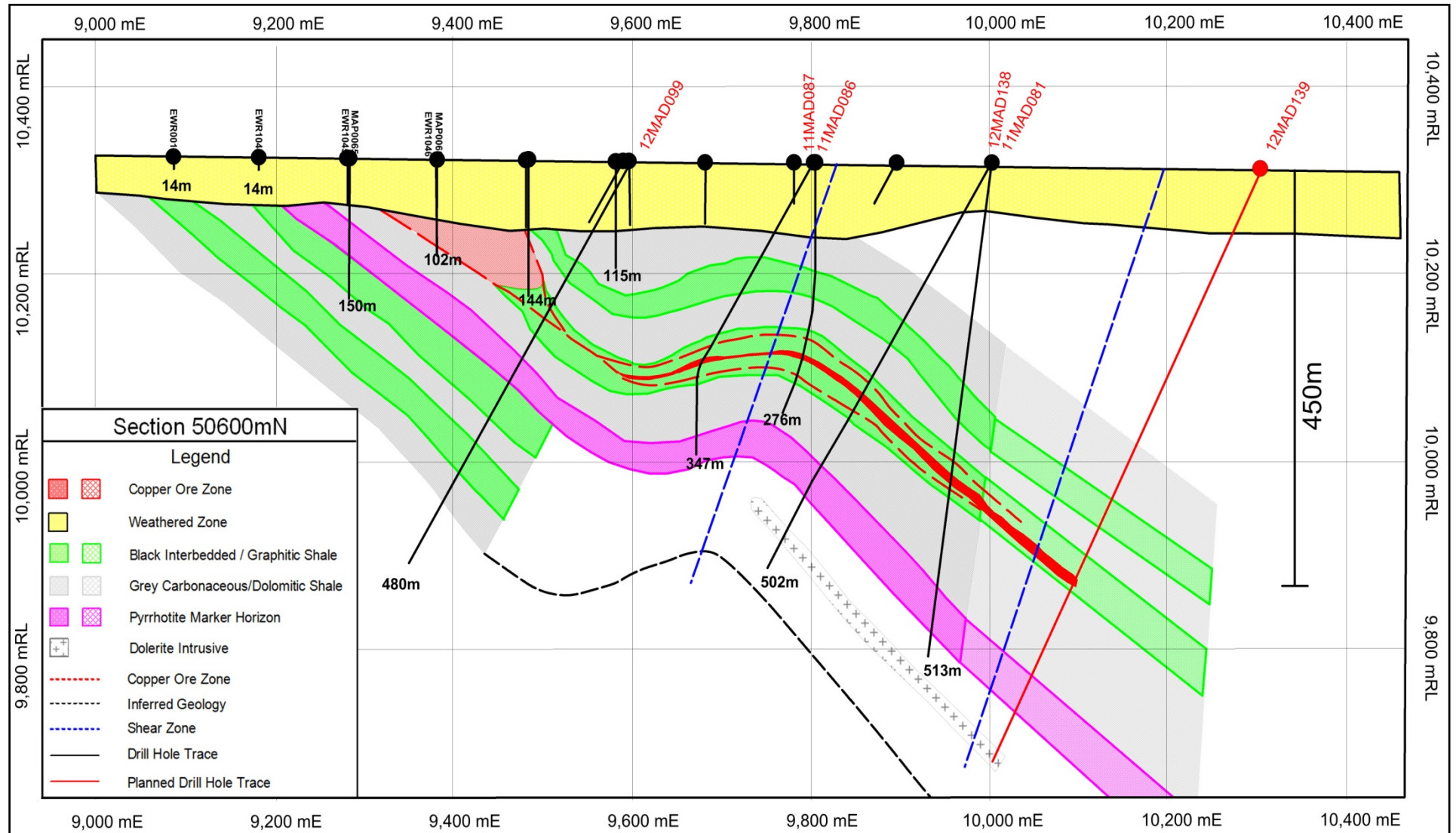


# Birla Maroochydore-Exploration

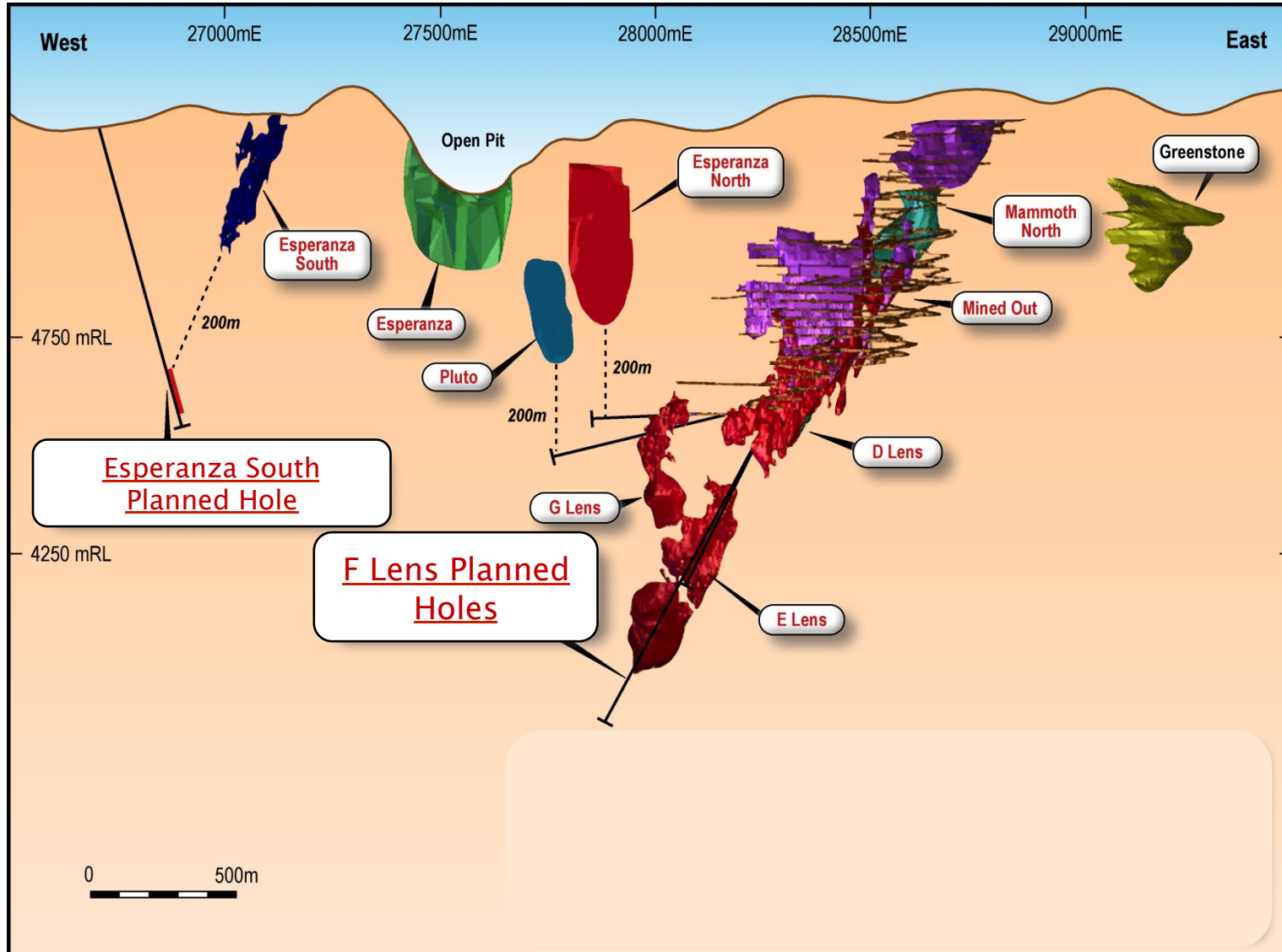




# Maroochydore Sulphide Prospect - 50600mN

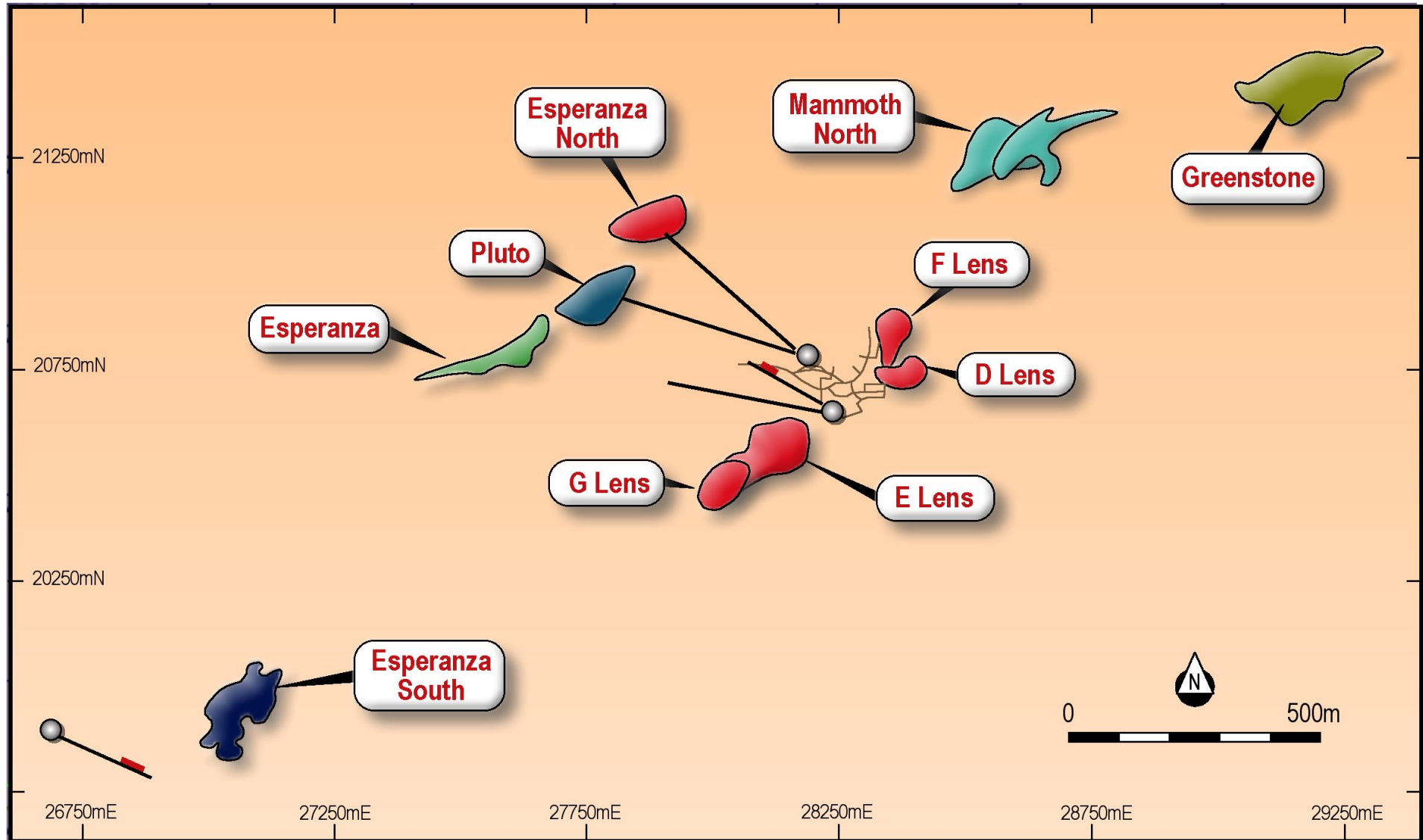


# Mt Gordon Resource Prospect Location





# Mt Gordon Resource-Prospects Location



# FY 13 Production Guidance

## Production: Contained Metal in concentrate

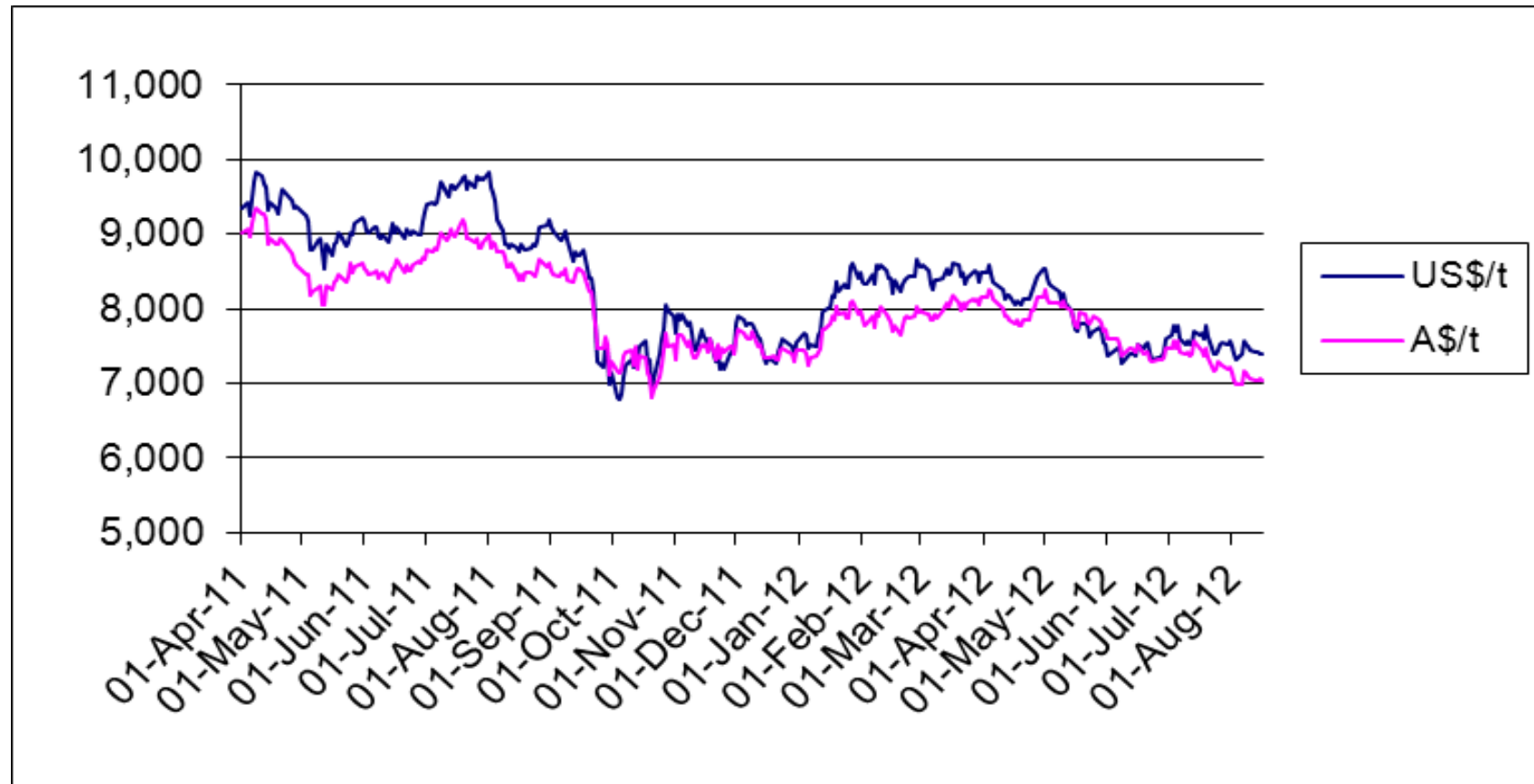
Copper	UOM	Qty
– Nifty Operations	Tonnes	50–55,000
– Mt Gordon	Tonnes	20–25,000
<b>TOTAL</b>		<b>70–80,000</b>

## Metal and Fx Hedge Position as at 17 August'12

Metal hedging	Buy Put		Sell Call		Swap		Total Qty Hedged	Average Rate
	Qty	USD	Qty	USD	Qty	USD		
Delivered Qty	–	–	–	–	–	–	–	–
Rolling 12 months	–	–	–	–	–	–	–	–
Total Qty Hedged	–	–	–	–	–	–	–	–

	Forward Sell	Average
FX Hedging	US\$–Mn	FX Rate
Rolling 12 months	66.7	0.9997

# Copper Prices



- LME has dropped by 22% in both USD and AUD terms

## Macro Economic Overview

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Macro concerns; European debt crisis continue to impact the overall market sentiment

Rebound in China and India growth may impact overall copper demand

Strength in AUD against USD adversely impacting realisation

As per IMF report, Global growth is likely to be ~3.5%, lower than previous estimate, copper prices expected to perform in line with the global growth.



## Strategic Imperatives and Key Focus Areas

### Nifty Operations

- Increase plant throughput to 2.7 mn MTPA
- Extend mine life beyond Checker board
- Resource and reserves expansion
- Cost optimization

### Mt Gordon Operations

- Increase mine life - develop Esperanza south and extension of Mammoth
- Scoping study based on new resource model
- Cost optimization

### Exploration

- Advance regional targets in Nifty, Mt Gordon and Maroochydore
- Extend Nifty and Mt Gordon mine life
- Increase sulphide resources at Maroochydore

### Inorganic growth

- To look at economically viable projects worldwide

## Aditya Birla Group – Giving Back – Our Community Initiatives



*Taking India to the world*

- Works in 3,000 villages
- Reaches out to 7 million people annually through the **Aditya Birla Centre for Community Initiatives and Rural Development**, Spearheaded by Mrs Rajashree Birla
- **Focuses on:** health-care, education, sustainable livelihood, infrastructure and espousing social reform.
- Runs **42 schools** providing quality education to **45,000 children**. Of these, over 18,000 children receive **free** education.
- ABG's 18 hospitals attend to more than a million villagers.

## Recap...

One of very few Dividend paying copper producer

Strong financial strength, sound strategy and operational discipline see us well placed for further growth

Part of prestigious Aditya Birla Group and backed up by Hindalco, the world's largest metal power house, strengthens our position in copper market

Board having diverse range of collective experience of over 200 years

Owens two high grade copper mines

ADITYA BIRLA



MINERALS



Thank You

Integrity

Commitment

Passion

Seamlessness

Speed



# Annexure A: Resources as at 31 March 2012

Aditya Birla Minerals Limited Mineral Resources as at 31 March 2012													
	CutoffGrade	Measured Resource			Indicated Resource			Inferred Resource			Total Resource		
NIFTY COPPER OPERATIONS													
	%	Tonnes (Mt)	Cu %	Co %	Tonnes (Mt)	Cu %	Co %	Tonnes (Mt)	Cu %	Co %	Tonnes (Mt)	Cu %	Co %
In situ Oxide and Supergene	0.4	3.20	1.10		4.10	1.10		3.20	1.10		10.50	1.10	
Broken Ore Stocks - Oxide and Supergene	N/A	0.00	0.00		0.00	0.00		0.00	0.00		0.00	0.00	
Sub Total Oxide and Supergene		3.20	1.10		4.10	1.10		3.20	1.10		10.50	1.10	
In situ Sulphide	1.2	25.10	2.60		3.80	2.00		1.60	1.70		30.50	2.50	
Broken Ore Stocks - Sulphide	N/A	0.00	0.00		0.00	0.00		0.00	0.00		0.00	0.00	
Sub Total Sulphide		25.10	2.60		3.80	2.00		1.60	1.70		30.50	2.50	
Total Mineral Resource		28.30	2.43		7.90	1.53		4.80	1.30		41.00	2.14	
Heap Leach Inventory *		15.70	0.50								15.70	0.50	
MT GORDON COPPER OPERATIONS													
In situ Sulphide	0.5	11.70	1.70		35.20	1.30		50.30	1.30		97.20	1.35	
Broken Ore Stocks - Sulphide	N/A	0.00	0.00		0.10	3.50		0.00	0.00		0.10	3.50	
Total Mineral Resource		11.70	1.70		35.20	1.30		50.30	1.30		97.20	1.35	
Maroochydore Copper Project													
Total Resource Oxide and Supergene	0.5				18.40	0.80	0.04	2.30	0.70	0.04	20.70	0.80	0.04
TOTAL (excl Nifty heap leach inventory)													
		40.00	2.20		61.50	1.20		57.40	1.30		158.90	1.50	

<sup>1</sup> Recoverable copper in the inventory under leach is additional to measured mineral resources.

The information in this table which relates to Mineral Resources for the Nifty and Mt Gordon operations is a depletion of the 2012 Mineral Resource which is based on and accurately reflects reports prepared by Mr Geoff Bullen in 2010 and Mr. Peter Ball in 2012. The information in this report which Relates to Mineral Resources for the Maroochydore project is based on and accurately reflects reports prepared by Mr Geoff Bullen in 2010. Mr Bullen and Mr Ball has the necessary experience relevant to the style of mineralisation, the type of deposit and the activity undertaken to qualify as a 'Competent Person' under the JORC Code for Reporting of Mineral Resources and Ore Reserves (2004 Edition). Mr Bullen and Mr Ball have given his consent to the inclusion of the material in the form and context in which it appears. Mr Bullen was an employee of Aditya Birla Minerals Limited during the period of the 2010 reporting. Mr. Ball of DataGeo Geological Consultant (an independent geological consultant).

Aditya Birla has had preliminary studies carried out for the Deposits currently reporting Mineral Resource at Mt Gordon to establish if it is economic to mine at a lower head grade and hence cut-off. This work has suggested that material within the mineral resource above a cut-off of 0.5% has the potential to be mined by bulk underground methods.

The Measured and Indicated Minerals Resource tabled above are inclusive of those Mineral Resources modified to produce the Ore Reserve. In all Resources and Reserves tables, significant figures do not imply precision. Figures are rounded according to JORC Code guidelines.

The depletion of the Mineral Resources for the Nifty and Mt Gordon operations for the 2012 reporting is based on and accurately reflects reports prepared by Mr Peter Ball of DataGeo Geological Consultants (an independent geological consultant) in 2012. Mr Ball is a member of the AusIMM (CP -Geo) and Mr Sivasamy is a Member of the Australian Institute of Mining and metallurgy. Mr Ball has the qualifications and necessary experience with this style of mineralisation to qualify as a competent person as described by the 2004 JORC Code for reporting of Mineral Resources and Ore Reserves. Mr Ball and Mr Sivasamy has given their consent to the inclusion of the material in the form and context in which it appears. Mr Sean Sivasamy is an employee of Aditya Birla Minerals Limited.



## Annexure B: Sulphide Reserves as at 31 March 2012

	Cutoff Grade	Proven Reserve		Probable Reserve		Total Reserve	
	Cu%	Tonnes(Mt)	Cu%	Tonnes(Mt)	Cu%	Tonnes(Mt)	Cu%
<b>Nifty Copper Operations</b>							
Nifty Underground Sulphide	1.2	14.6	2.1	3.2	2.0	17.8	2.1
Broken Ore Stocks - Sulphide	N/A	0	0	0	0	0	0
<b>Nifty Sulphide Ore Reserves</b>		<b>14.6</b>	<b>2.1</b>	<b>3.2</b>	<b>2.0</b>	<b>17.8</b>	<b>2.1</b>
<b>Mt Gordon Copper Operations</b>							
Sulphide	1.5	0.8	2.0	3.6	2.4	4.4	2.3
Broken Ore Stocks - Sulphide	N/A	0	0	0	0	0	0
<b>Mt Gordon Sulphide Ore Reserves</b>		<b>0.8</b>	<b>2.0</b>	<b>3.6</b>	<b>2.4</b>	<b>4.4</b>	<b>2.3</b>
<b>Total Sulphide Ore Reserves</b>		<b>15.4</b>	<b>2.1</b>	<b>6.8</b>	<b>2.2</b>	<b>22.2</b>	<b>2.1</b>

The information in this statement for the Nifty Copper Operations underground Ore Reserve is based on information compiled by Mr Brad Watson under the direct supervision of Mr David Lee who is a Fellow of the Australasian Institute of Mining and Metallurgy and a full time employee of AMC Consultants Pty Ltd. Mr Lee has sufficient relevant experience to be a Competent Person as defined in the JORC Code. Mr Lee consents to the inclusion of this information in the form and context in which it appears.

The information in this table that relates to Ore reserves for Mt Gordon operations is based on the information compiled by Edward Gleeson an employee of AMC Consultants Pty Ltd. Mr Gleeson is a member of Australasian Institute of Mining and Metallurgy. Mr Gleeson have sufficient experience, which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which they are undertaking to qualify as a Competent Person as defined in the 2004 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mr Gleeson consents to the inclusion of this information in the form and context in which it appears.