Building momentum in Base Metals

Peter Beaven  President Base Metals
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Exploration Targets and Mineral Resources

This presentation includes information on Exploration Targets (Potential Mineralisation) and Mineral Resources. Mineral Resources are compiled by:


Exploration Targets (Potential Mineralisation) are compiled by J des Rivieres (IGI) (Escondida has been previously reported in BHP Billiton’s Bank of America Merrill Lynch Global Metals, Mining & Steel Conference Presentation, 15 May 2012).

All information is reported under the ‘Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves, 2004’ (the JORC Code) by the above-mentioned persons who are employed by BHP Billiton and have the required qualifications and experience to qualify as Competent Persons for Mineral Resources or Exploration Results under the JORC Code.

The compilers verify that this report is based on and fairly reflects the Exploration Targets and Mineral Resources information in the supporting documentation and agree with the form and context of the information presented.

Mineral Resource classification and Potential Mineralisation Ranges (100% basis) for each province, where relevant, are contained in Table 1.

### Table 1

<table>
<thead>
<tr>
<th>Province</th>
<th>Measured Resource (Mt)</th>
<th>Indicated Resource (Mt)</th>
<th>Inferred Resource (Mt)</th>
<th>Range of Potential Mineralisation (Bt)</th>
<th>BHP Billiton interest</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Low</td>
<td>Mid</td>
</tr>
<tr>
<td>Escondida district</td>
<td>4,087 @ 0.72% Cu</td>
<td>4,991 @ 0.57% Cu</td>
<td>12,634 @ 0.47% Cu</td>
<td>16 @ 0.4-0.6% Cu</td>
<td>23 @ 0.4-0.6% Cu</td>
</tr>
<tr>
<td>Cerro Colorado</td>
<td>153 @ 0.65% Cu</td>
<td>188 @ 0.66% Cu</td>
<td>83 @ 0.64% Cu</td>
<td>1.3 @ 0.35-0.45% Cu</td>
<td>1.7 @ 0.35-0.45% Cu</td>
</tr>
<tr>
<td>Spence</td>
<td>241 @ 0.92% Cu</td>
<td>1,278 @ 0.47% Cu</td>
<td>1,174 @ 0.39% Cu</td>
<td>0.8 @ 0.4-0.5% Cu</td>
<td>1.2 @ 0.4-0.5% Cu</td>
</tr>
<tr>
<td>Antamina</td>
<td>188 @ 0.85% Cu</td>
<td>1,018 @ 0.92% Cu</td>
<td>708 @ 0.73% Cu</td>
<td>33.75</td>
<td></td>
</tr>
<tr>
<td>Cannington</td>
<td>50 @ 248g/t Ag, 6.7% Pb, 3.4% Zn</td>
<td>17 @ 149g/t Ag, 4.7% Pb, 2.8% Zn</td>
<td>10 @ 125g/t Ag, 4.1% Pb, 2.4% Zn</td>
<td>100</td>
<td></td>
</tr>
</tbody>
</table>

The range of Potential Mineralisation is estimated from geological information including boreholes, outcrops and geophysical information. The potential quantity is conceptual in nature, there has been insufficient exploration to define a Mineral Resource and it is uncertain if further exploration will result in the determination of a Mineral Resource. It should not be expected that the quality of the Potential Mineralisation is equivalent to that of the Mineral Resource.
Building momentum in Base Metals

- Strong performance in health, safety, environment and the community
- Our confidence in the long term outlook for copper
- Delivering valuable growth in our Base Metals business
- Low risk, high return projects are progressing well
- The challenges facing the Chilean mining industry
Strong performance in health, safety, environment and the community

**Health**
- Focus on reducing exposure to silica, noise and acid mist
- Monitoring and managing fatigue

**Safety**
- No fatalities
- Material risk management
- Job safety observations
- Promoting a culture of compliance
- Field leadership

**Environment**
- Reduce environmental footprint (energy and water efficiency)
- Abatement curves for energy, water and carbon

**Community**
- Focus on improving quality of life indicators
- Escondida Foundation
- Antamina Fund
- Invested in excess of US$250 million in local communities over the last five years
Total Recordable Injury Frequency
(12 month rolling average)

1. Excludes Uranium Customer Sector Group (Olympic Dam).
2. Indicates a fatality occurred in the Base Metals Customer Sector Group during the reporting period.
3. TRIF up until 31 May 2012.
Demand evolves with economic development

- Emerging economic growth will transition from being investment to consumption led
- Steel intensity is expected to peak first as the construction cycle matures
- Commodities such as copper plateau later in the industrialisation cycle
- Energy and food demand is linked with economic expansion in a more linear fashion
- Diversification will provide more opportunities to create long term shareholder value

Intensity trends evolve with economic development

GDP per capita (2005 real US$’000, PPP basis)

China’s share of global demand (CY11, %)

Source: World Bank; Brook Hunt – a Wood Mackenzie Company; CRU; IISI; Global Insight; CISA; World Steel Association; JBS; IEA; BHP Billiton analysis.

1. The demand intensity index represents volume consumption per capita, with 1972 consumption representing 100 for electricity, and 1968 consumption representing 100 for the other commodities.
Robust long term Chinese copper demand growth

**Chinese inventory cycle creates short term volatility** (% change YoY, 3 month moving average)

- Semis output
- Refined supply

**Underlying long term Chinese demand is strong**
(index 2000=100)

- Domestic mine
- Cathode imports
- Other imports
- Scrap
- Inventory change

Source: China Customs; BHP Billiton analysis.

Source: NBS; China Customs.
Copper remains a material of choice

- Copper is a material of choice
  - energy efficient
  - carbon sensitive

- Overall substitution remains small (~2% of the global market), especially in high volume sectors

- Even at a price ratio of 4:1 for copper:aluminium, substitution has not significantly increased penetration

- The copper industry is evolving to defend market share

Substitution losses by key market sector

<table>
<thead>
<tr>
<th>Market Sector</th>
<th>Tonnage Loss (thousand tonnes)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electric motors</td>
<td>2%</td>
</tr>
<tr>
<td>Industrial power cable</td>
<td>1%</td>
</tr>
<tr>
<td>Non-insulated uses of wire rod</td>
<td>2%</td>
</tr>
<tr>
<td>Plumbing tube</td>
<td>7%</td>
</tr>
<tr>
<td>Utility power cable</td>
<td>4%</td>
</tr>
<tr>
<td>Telecom cable</td>
<td>14%</td>
</tr>
<tr>
<td>Alloy rod &amp; bar</td>
<td>3%</td>
</tr>
<tr>
<td>Commercial tube</td>
<td>4%</td>
</tr>
</tbody>
</table>

Source: ICA; CRU International.

1. Percentage shown represents share of product market lost in 2011.
Copper: a longer term supply challenge

Grade decline constrains the supply response
(% copper in process feed)

Strong effective\(^1\) copper demand growth
(million tonnes per annum)

Source: Brook Hunt – a Wood Mackenzie Company.

1. Effective demand combines forecast market demand growth and the anticipated supply reduction from existing operations.
A world class Base Metals business

Note: Includes producing assets and major projects in execution.
Escondida: the world’s leading copper mine

- Largest copper mine in the world
- 4,000 employees and 10,000 contractors
- Material movement in excess of 1.5 mtpd, over 50% more than our Western Australia Iron Ore business
- Two pits feeding two concentrators (Los Colorados and Laguna Seca) and two leaching operations (oxide and sulphide)
- Two cathode producing electrowinning plants
- Port facilities with capacity to export over 1 mtpa of copper in concentrate
- Copper production guidance for FY12\(^1\) unchanged with a substantial uplift forecast in the June 2012 quarter

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1. Escondida FY12 production is forecast to be marginally lower than FY11 with volumes weighted to the second half. BHP Billiton interest in Escondida is 57.5%.
Significant increase in valuable Escondida mineral district resources

- Significant increase in Escondida mineral district resources including
  - 129% increase reported in FY11
  - a further 11% increase reported in February 2012
- High quality resource base with 21.7 bt @ 0.54% copper
- Open cut development potential and long term underground opportunity

1. BHP Billiton 2011 Annual Report and BHP Billiton News Release dated 14 February 2012. Refer to disclaimer on slide 3 as presented on 27 June 2012. Declared resources in the Escondida Norte and Pinta Verde deposits are constrained to those within Minera Escondida Limitada mining rights.
Delivering low risk, high return volume growth

- Escondida Ore Access on track for completion in the June 2012 quarter, providing access to high grade ore (over 1% copper head grade)
- Escondida Organic Growth Project 1 (OGP1) approved in the March 2012 quarter with commissioning scheduled for CY15
- Targeting copper production of over 1.3 mt in FY15 (100% basis)

Significant growth in Escondida copper production
(index annualised H1 FY12, BHP Billiton share)

1. H1 FY12 production annualised, indexed to 100.
OGP1 generates strong returns

- Construction of a new concentrator with 152 ktpd processing capacity
  - located adjacent to the existing Laguna Seca concentrator
- High return project with a competitive level of capital intensity
- Maximises value by
  - achieving early access to high grade ore located underneath the Los Colorados concentrator
  - increasing throughput capacity by approximately 50 ktpd\(^1\)
- Will be the standard concentrator design for Base Metals

OGP1 – setting a new benchmark for the industry

**Capital intensity**
(US$/tonne per day)

<table>
<thead>
<tr>
<th>Processing capacity (thousand tonnes per day)</th>
<th>OGP1(^2)</th>
<th>Antamina</th>
<th>Escondida IV</th>
</tr>
</thead>
<tbody>
<tr>
<td>15,000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>30,000</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Bechtel.

1. Includes incremental capacity from the Laguna Seca debottlenecking project and the new 152 ktpd plant that will replace the Los Colorados concentrator.
2. The OGP1 capital intensity calculation is based on costs related to the basic concentrator process facilities only and excludes costs related to infrastructure such as reclaim conveying systems, tailings, administration buildings and warehouses. Capital intensity calculations performed on the same basis for the peer group.
Pampa Norte combination a major success

- Combined Spence and Cerro Colorado operations into a single asset
  - allows sharing of best practices and critical skills
  - complementary oxide and secondary sulphide leach operations
- 24% of BHP Billiton copper production in FY11
- Current production capacity
  - approximately 180 ktpa of copper at Spence\(^1\)
  - approximately 95 ktpa of copper at Cerro Colorado\(^1\)
- Plant debottlenecking completed at both Spence and Cerro Colorado during FY12
  - increased processing capacity at Spence to 61 ktpd (from 56 ktpd)
  - increased processing capacity at Cerro Colorado to 55 ktpd (from 52 ktpd)

\(^1\) BHP Billiton interest in both Spence and Cerro Colorado is 100%.

Source: BHP Billiton.
Hypogene zone provides a significant opportunity for Pampa Norte

- Spence North Phase Access project completed during FY12
  - allows early access to higher grade ore by accelerating waste stripping
- Progressing pre-feasibility studies for the Spence Hypogene project
  - potential for open pit access to more than 2 bt of sulphide resources\(^1\) that could be processed through a new 95 ktpd concentrator
- Hypogene mineralisation at Cerro Colorado is in the early stages of characterisation
  - potential for exploitation through either leaching or concentration

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2. Perspective view of the Spence Mineral Resources as of 31 December 2011, showing drill data (vertical lines), limit of +0.2% Cu as chalcopyrite and open pit limit of declared resources. Material of TCu > 0.2% outside the pit limit is included in the Potential Mineralisation stated on slide 3. Pit dimensions are approximately 4km x 1km x 0.5km in depth.
3. Plan view map of Hypogene sulphides underlying the declared supergene mineral resources. This material is included in the Potential Mineralisation stated on slide 3.
Antamina: large, long life, low cost and expandable

- Located in the Peruvian Andes at 4,300 m above sea level
- Polymetallic skarn ore body (copper, zinc, molybdenum, silver and lead)
- A world class and leading base metals operation on a copper equivalent basis
- Producing a higher proportion of copper versus zinc (a ratio of approximately 70:30)
- Production guidance for CY12 of approximately 425 kt of copper and approximately 200 kt of zinc (100% basis\(^1\))
- Positioned at the bottom of the cost curve benefiting from by-product credits

\(^1\) BHP Billiton interest in Antamina is 33.75%.
Antamina expansion is ramping up

• Expansion project increases ore processing capacity to 130 ktpd and generates strong investment returns
  – 92% complete at the end of May 2012
  – delivered incremental production in the March 2012 quarter
• Components to complete
  – molybdenum plant, fresh water pond and last orders of mine equipment
• Debottlenecking opportunities beyond 130 ktpd being considered
Cannington: the world’s largest silver and lead mine

- Single underground operation with processing capacity of over 3 mtpa\(^1\)
- One of the lowest cost producers of silver and lead
- Access to markets through BHP Billiton owned port infrastructure
- Two saleable products (lead and zinc concentrates)
  - high metal content
  - low impurities
- Highly cash generative asset
  - average EBITDA to operating assets of 3.5 times over the last 5 years

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1. BHP Billiton interest in Cannington is 100%.

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Top 10 silver producers
(CY11 production, million ounces)

- Fresnillo plc: 42
- KGHM Polska Miedz: 41
- Cannington Mine: 32
- Goldcorp Inc: 27
- Pan American Silver Corp: 22
- Volcan Cia. Minera: 21
- Polymetal International plc: 20
- Coeur d'Alene Mines Corp: 19
- Cia. De Minas Buenaventura: 15
- Hochschild Mining plc: 15

Source: Company reports, contained silver in production.
Cannington’s resource provides significant scope to increase the life of mine

- Significant expansion of near surface resource of 19 mt\(^1\)
- Option to significantly extend life of mine by more than 20 years with the staged development of an open pit
- Potential to increase processing capacity to 5 mtpa
- Ready access to outbound supply chain capacity utilising existing road, rail and port infrastructure

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1. Open cut Mineral Resources contained within the Northern Zone pit limit, exclusive of underground resources and reserves reported in the BHP Billiton 2011 Annual Report. Cannington open cut Mineral Resources of 19 mt is included in the Table 1 on slide 3 as presented on 27 June 2012. Refer to disclaimer on slide 3.
2. Vertical projection of the Cannington mineral inventory, classified asMeasured, Indicated or Inferred as per the 2004 JORC Code, and depleted by previous production stopes. Northern Zone pit limits are based on a current feasibility-stage project and is used as the basis for Open Cut Mineral Resource declaration. The Southern Zone open pit limit is currently in concept-stage study and is not used as a basis for resource declaration.
Pinto Valley: a low risk and low complexity restart

- Restart announced in February 2012 with expected start up of operations by end CY12
- Investment of US$195 million\(^1\) for a low risk, low complexity and quick payback project (facilities in place)
- Produces copper and molybdenum concentrate
- Capacity of 60 ktpa\(^1\) of copper in concentrate
- Five year production plan in place with further extension options available

1. BHP Billiton interest in Pinto Valley is 100%.
Power

- Our power requirements in Chile (Northern Grid – SING) are fully secured for the next four years.
- Ongoing tender process for long term power requirements with contracts expected to be closed during FY13.
- Options include various combinations of conventional coal, gas generation and renewable sources.

Water

- Surface and ground water is scarce in Northern Chile.
- Current water supply for our operations is mainly sourced from underground aquifers.
- The use of sea water is being prioritised with associated studies underway.

Source: BHP Billiton.
Labour

- Availability of qualified labour for both operations and projects is a key challenge.
- Productivity is lower in Chile compared to other mining jurisdictions.
- BHP Billiton’s Santiago Project Hub provides a stable platform for the development of project people.
- Labour contracts for our three operations are scheduled to be renegotiated during CY13.

Costs

- Increased mining and reconstruction activity has tightened the supply of key raw materials.
- We are focused on capital and operating costs improvement.
- Our competitive position on the cost curve is important in this environment.
bhp billiton
resourcing the future