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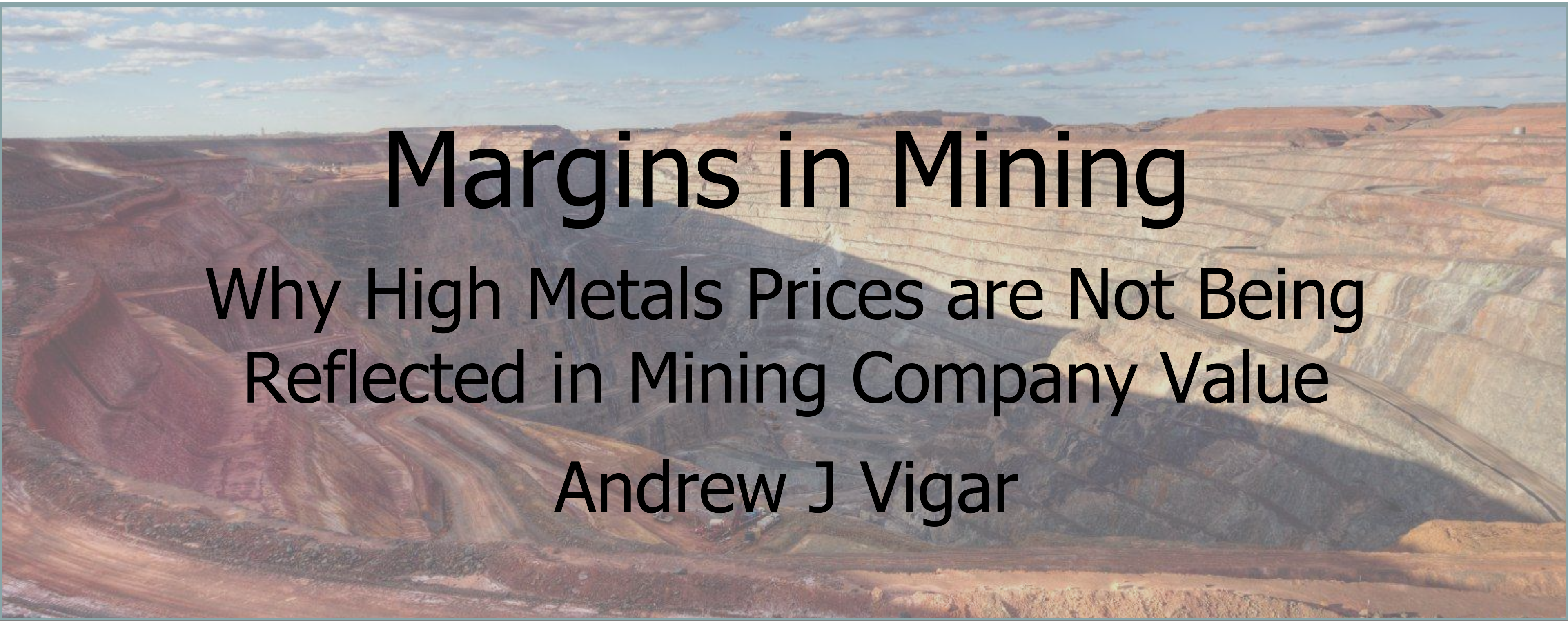

Margins in Mining

Why High Metals Prices are Not Being Reflected in Mining Company Value

Andrew J Vigar

March 2013

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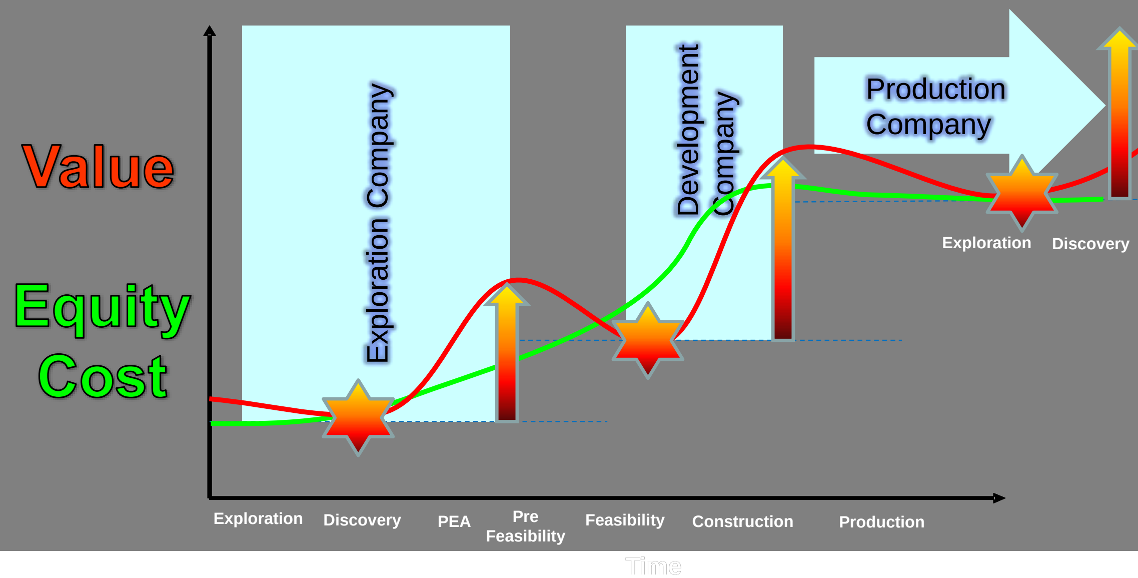
Margins in Mining – Where are they

- What is and is not included in C1 costs
- The real cost of Capital and how to hide it
- Overheads, R&D (incl. exploration) and core values
- Why high commodity prices do not equal high margins
- Value Waves



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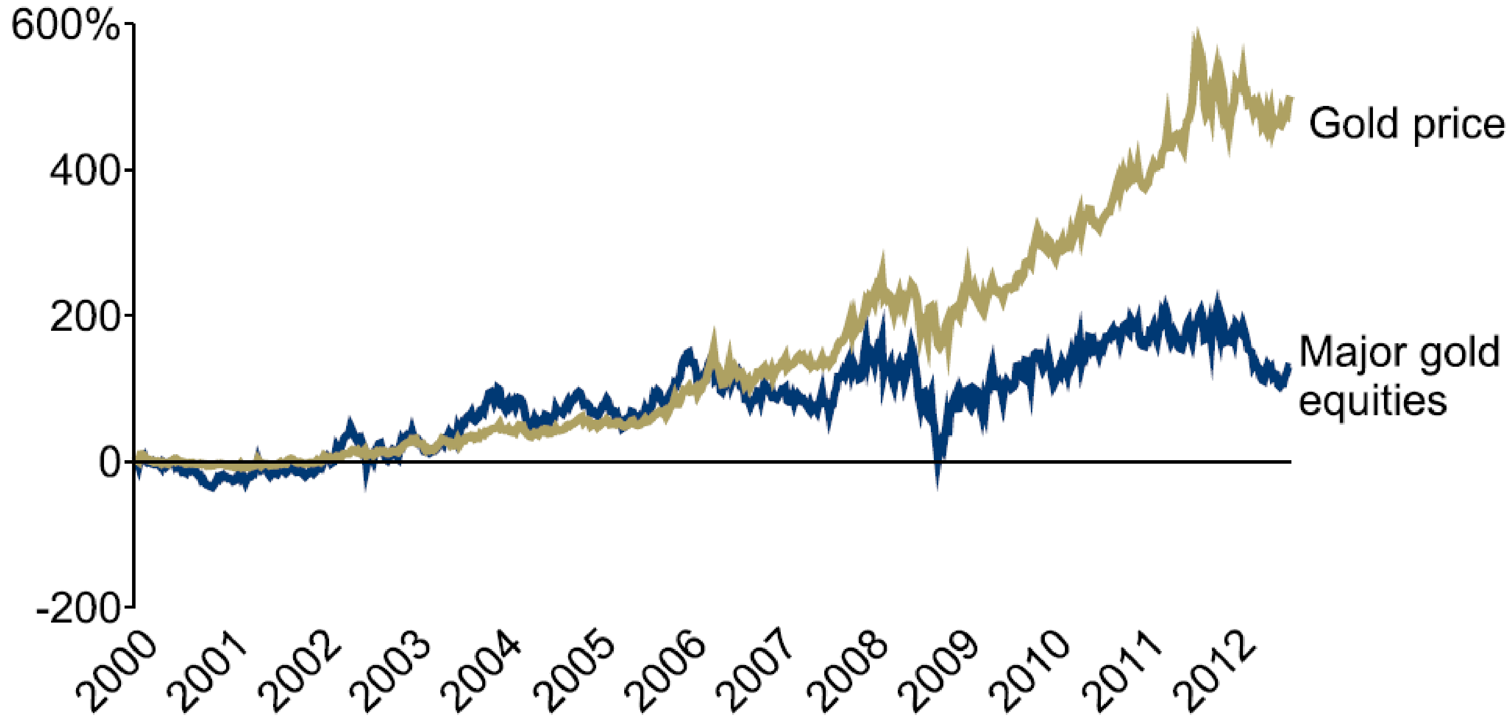
Gold and Gold Miners 2000-2012

Total gold and major gold equities return (%, 2000-12)

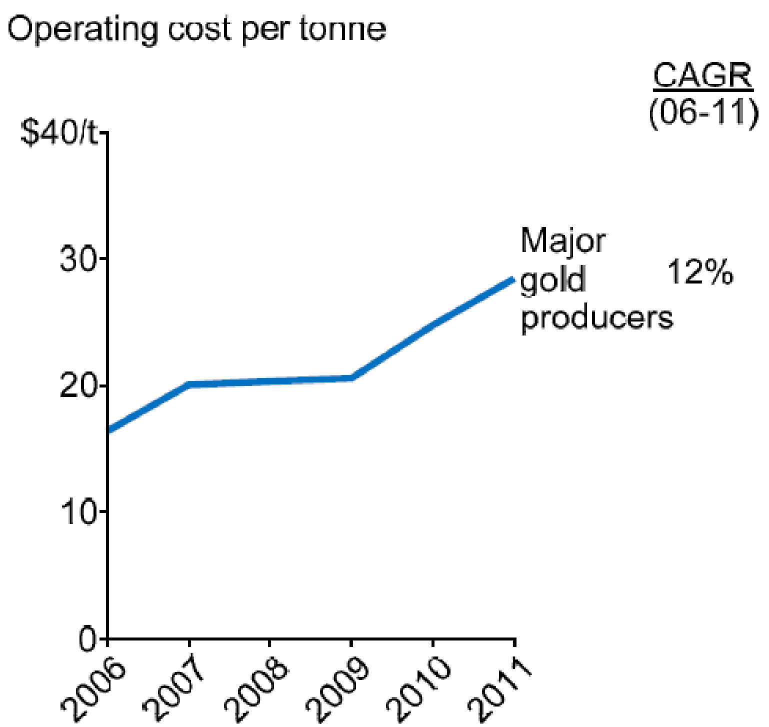


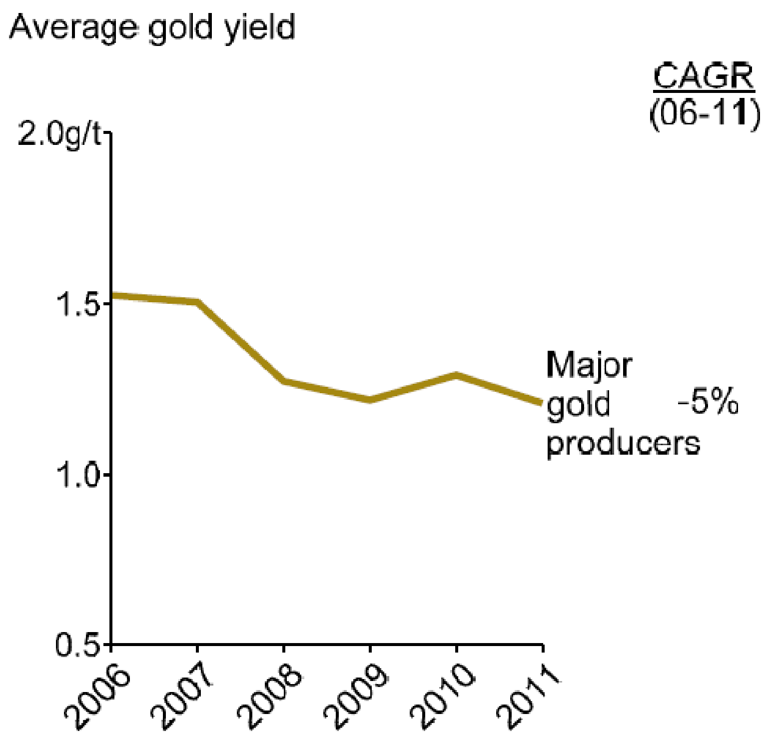
Note: Data indexed to 14th January 2000; index made up of 8 major gold producers' total return indexes weighted by market capitalisation; Major Gold producers defined as: AngloGold Ashanti, Barrick, Harmony, Kinross, Goldcorp, Gold Fields, Newmont and Newcrest

Source: Bloomberg

From presentation by Nick Holland
CEO of Goldfields Limited
at Denver Gold Forum 11 September 2012

Costs are rising and grades falling





Note: Cost per tonne is the weighted average of 8 major gold producers by total ore mined; average grade is the weighted average of 8 major gold producers by total ore mined; Major Gold producers defined as: AngloGold Ashanti, Barrick, Harmony, Kinross, Goldcorp, Gold Fields, Newmont and Newcrest.

Source: Gold Fields company data; annual reports

GOLD FIELDS

From presentation by Nick Holland
CEO of Goldfields Limited
at Denver Gold Forum 11 September 2012

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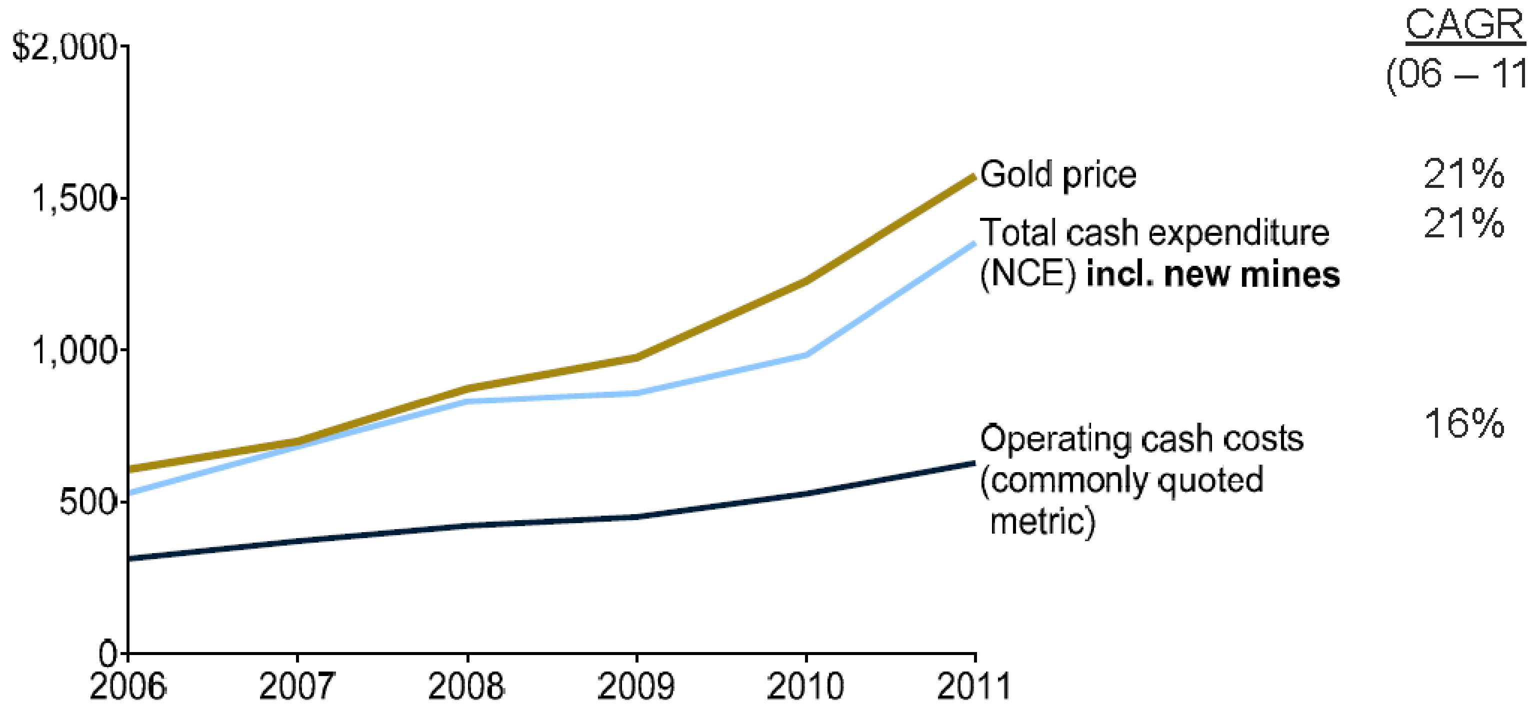
Widening gap between C1 and C3

Notional cash expenditure for
Major Gold Producers (2006-11, $/oz)



Note: Major Gold producers defined as: AngloGold Ashanti, Barrick, Harmony, Kinross, Goldcorp, Gold Fields, Newmont and Newcrest; *Estimated NCE/oz based on total cash costs plus capex for existing operations, weight averaged by production (excludes new mine development capex)

Source: Bloomberg; Annual reports

GOLD FIELDS

From presentation by Nick Holland
CEO of Goldfields Limited
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Mike Young – BC Iron

- **BC IRON managing director Mike Young has defended the Australian iron ore industry's record for disclosure of production costs, warning that it is up to investors to ensure they sufficiently understand the additional charges that can squeeze a miner's margins.**
- Speaking to The Australian amid ongoing investor concern about the way miners report their production costs, Mr Young said iron ore miners were meeting all relevant accounting standards in their reporting of so-called C1 cash costs.
- "It's not like you deliberately try to hide stuff, but at some point you've got to make an assumption that the investors have some degree of knowledge about what's going on," Mr Young said.
- He said BC released sufficient information for well-informed investors to evaluate the company, based on their own pricing forecasts.

From article in The Australian Newspaper
Paul Garvey
27 December 2012

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Gavin Thomas - Kingsgate

- Kingsgate chief executive and managing director Gavin Thomas has been calling for better disclosure of costs for several years.
- He said companies were "delusional" to exclude costs such as royalties from their reported cash costs.
- "How can you produce an ounce of gold and not call a government-mandated royalty part of your cash costs?" he asked
- "I'm a great believer in making the numbers understandable and believable.
- "And if we as an industry don't make those numbers readily understandable to the public, how can we expect them to invest?" he said.
- "If sophisticated analysts are confused, how can we expect retail investors not to be confused?"

Stephen Thomas – Bell Potter

Gold producers' cash costs

Company	Reported cash costs ($/oz)	Est. total costs ($/oz)
St Barbara Mines	793	1186
Resolute Mining	761	1037
Alacer Gold	760	1202
Evolution Mining	790	1307
Regis Resources	513	923
OceanaGold	1109	1624
Teranga Gold	723	1101
Kingsgate	764	1236
Endeavour Mining	688	1136
Troy Resources	625	1020
Perseus Mining	501	722
Saracen Minerals	898	1255
Northern Star	626	1000
Silver Lake Resources	673	1124
Focus Minerals	1092	1413
Weighted average operating cash costs and total costs	$773	$1170

Source: Bell Potter

- Stephen Thomas – Bell Potter
- Reported Cash Costs ignore many major imposts such as taxes, royalties, exploration, administration and capital expenditure
- Total costs 50% higher than C1

From article in The Australian Newspaper
Paul Garvey
21 January 2013

Brook Hunt – C1

- *Net Direct Cash Cost* (C1) represents the cash cost incurred at each processing stage, from mining through to recoverable metal delivered to market, less net by-product credits (if any). The M1 margin is defined as metal price received minus C1.
- Direct Cash Costs cover:
  - Mining, ore freight and milling costs.
  - Ore purchase and freight costs from third parties in the case of custom smelters or mills.
  - Mine-site administration and general expenses.
  - Concentrate freight, smelting and smelter general and administrative costs.
  - Matte freight, refining and refinery general and administrative costs.
  - Marketing costs (freight and selling).

From Brook Hunt – A Wood Mackenzie Co

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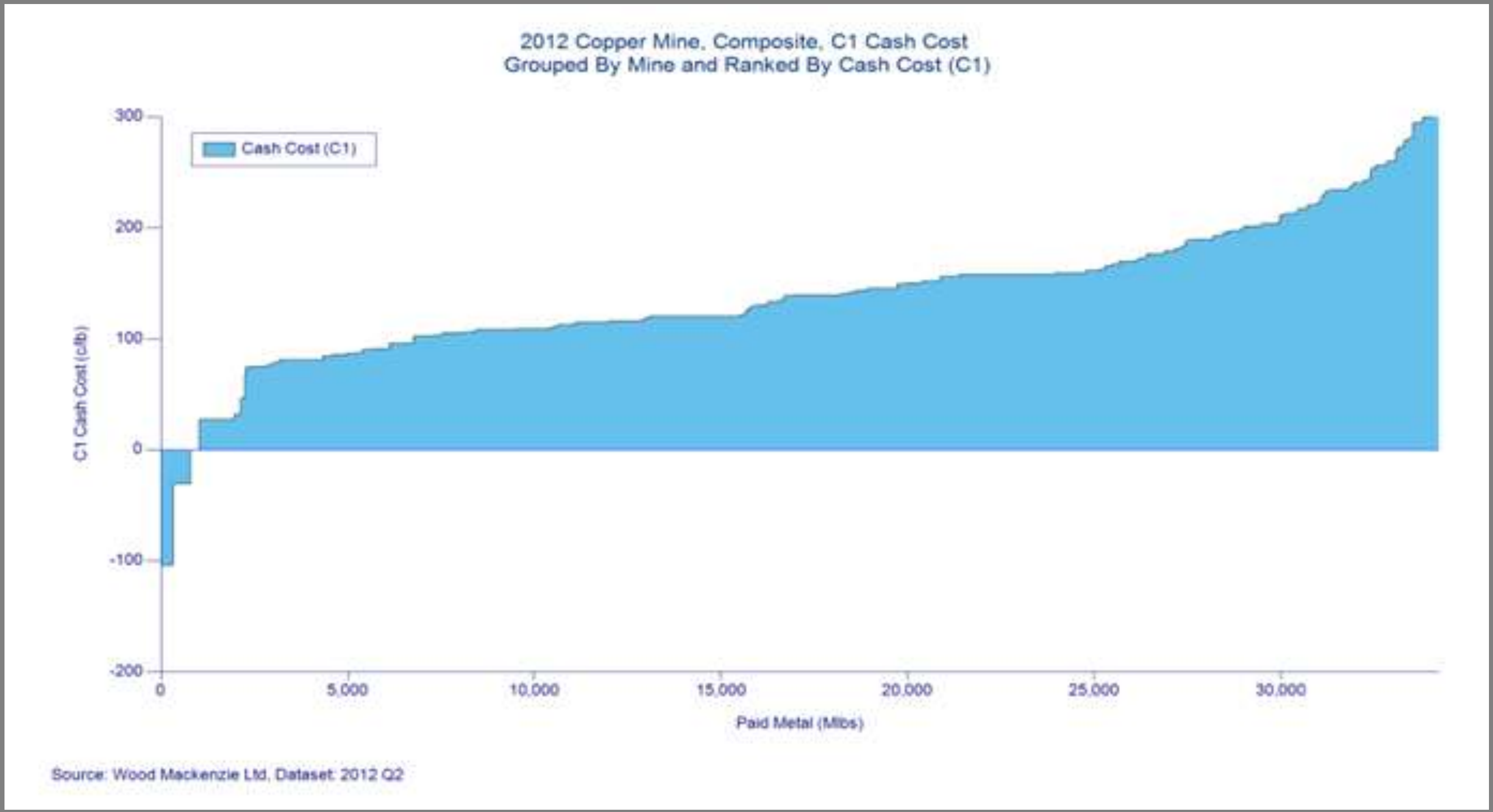
C1 Copper Cost Curve



From Brook Hunt – A Wood Mackenzie Co

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Brook Hunt – C2

- *Production Cost* (C2) is the sum of net direct cash costs (C1) and depreciation, depletion and amortisation. The M2 margin is defined as metal price received minus C2.

From Brook Hunt – A Wood Mackenzie Co

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Brook Hunt – C3

- *Fully Allocated Cost* (C3) is the sum of the production cost (C2), indirect costs and net interest charges. The M3 margin is defined as metal price received minus C3.

- Indirect Costs are the cash costs for:
  - The portion of corporate and divisional overhead costs attributable to the operation.
  - Research and exploration attributable to the operation.
  - Royalties and "front-end" taxes (excluding income and profit-related taxes).
  - Extraordinary costs i.e. those incurred as a result of strikes, unexpected shutdowns etc.
  - Interest charges include all interest paid, both directly attributable to the operation and any corporate allocation (net of any interest received) on short-term loans, long-term loans, corporate bonds, bank overdrafts etc.

From Brook Hunt – A Wood Mackenzie Co

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Almost always not included

- Overheads, non-site costs etc. – they should be in, part of running the business
- Do not include royalties, native title payments, marketing costs, exploration and development
- Do not include off-site costs such as freight, TCRCs and penalties for impurities or grade
- Sustaining Capital – they should be in, sustaining capital is not like initial Capex. It is either a variable cost i.e. depends on production, that arises in occasional chunks instead of regularly, or period/fixed cost that turn up every several years rather than regularly. The facts that accountants call it 'capital' is distracting – it is Opex in large chunks.

From Gerald Whittle, Whittle Consulting

Not Generally Included

- Cost of capital – that is debateable. There is general issue that spending CAPEX to reduce OPEX decisions are being sawed towards too much CAPEX if we only report or measure REVENUE – OPEX.
- Cost of Exploration – that is debateable, it is to do with a desire to be in business in the future, not todays operation.

From Gerald Whittle, Whittle Consulting

C1 to C3 Comparison - Inmet

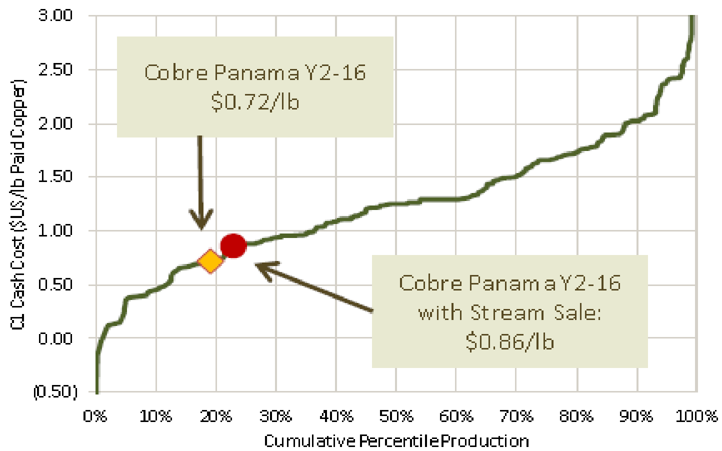
C1 Cash Costs ($/lb Cu)

Cost Centre	Years 2-16	LOM Avg.
Mine	$0.30	$0.32
Plant	$0.37	$0.44
G&A	$0.11	$0.12
Site services	$0.03	$0.04
Offsite costs	$0.30	$0.30
By-product credits	($0.40)	($0.40)
C1 Cash Costs	**$0.72**	**$0.82**

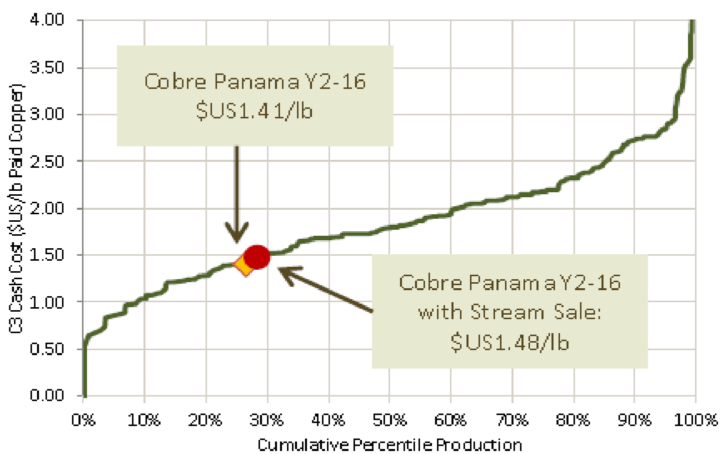
C3 Cash Costs ($/lb Cu)

Cost Item	Years 2-16	LOM Avg.
C1 cash costs	$0.72	$0.82
Depreciation and closure	$0.50	$0.48
Royalty and front end taxes	$0.14	$0.14
Interest cost (3rd party debt) [2]	$0.04	$0.03
C3 Cash Costs	**$1.41**	**$1.47**

Forecast 2020 Copper Industry C1 Cost Curve[1]



Forecast 2020 Copper Industry C3 Cost Curve[1]



From Inmet Mining Presentation, BAML Global Metals, Mining & Steel Conference May 16, 2012

1. 2020 Copper Cost League by Brook Hunt with Brook Hunt's 2012 Q1 assumptions adjusted for metal prices and derived input costs under the Consensus Long-Term Price Scenario.
2. Assumes $1.6Bn debt.

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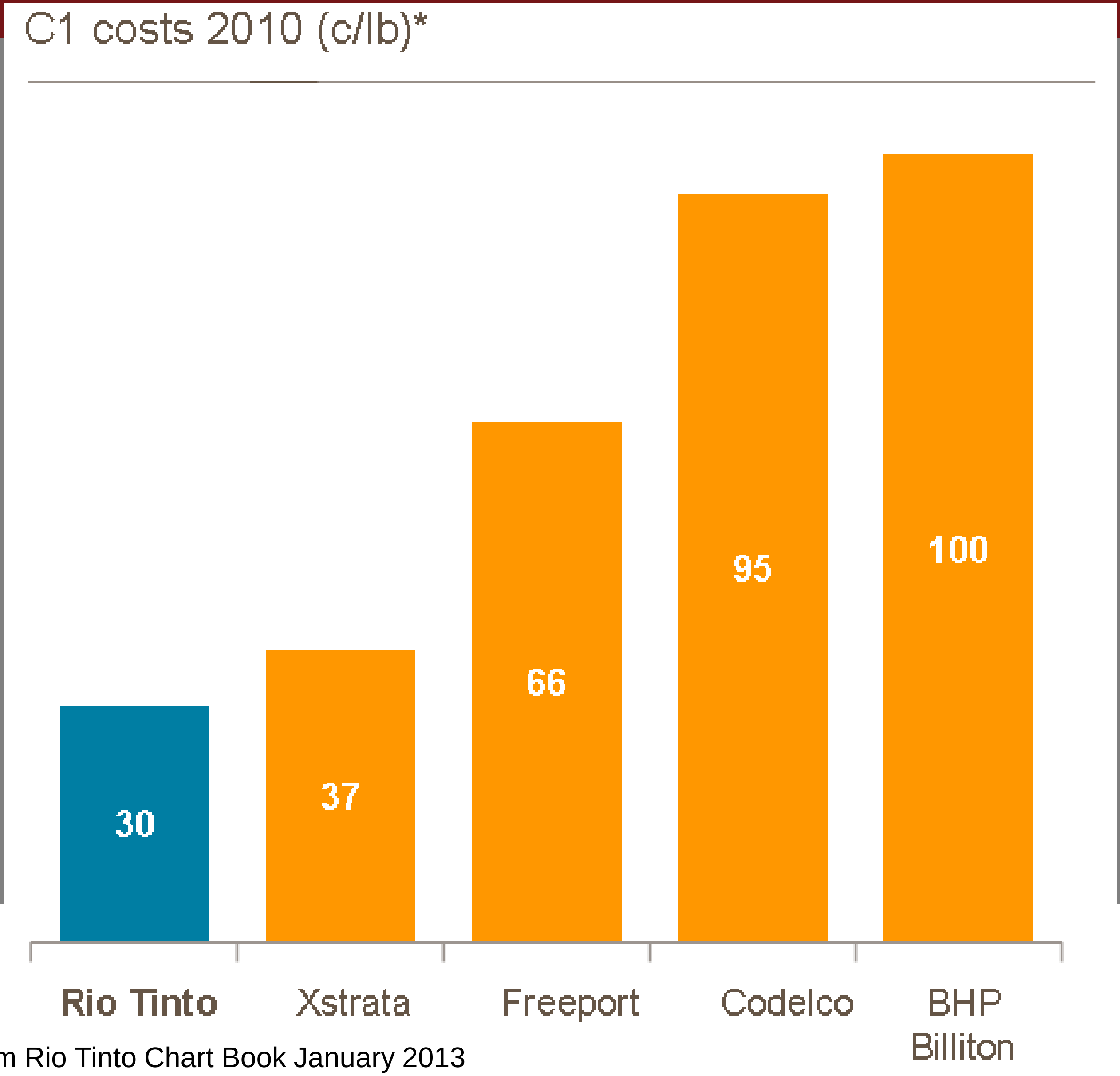
C1 Costs of Major Copper Producers



From Rio Tinto Chart Book January 2013

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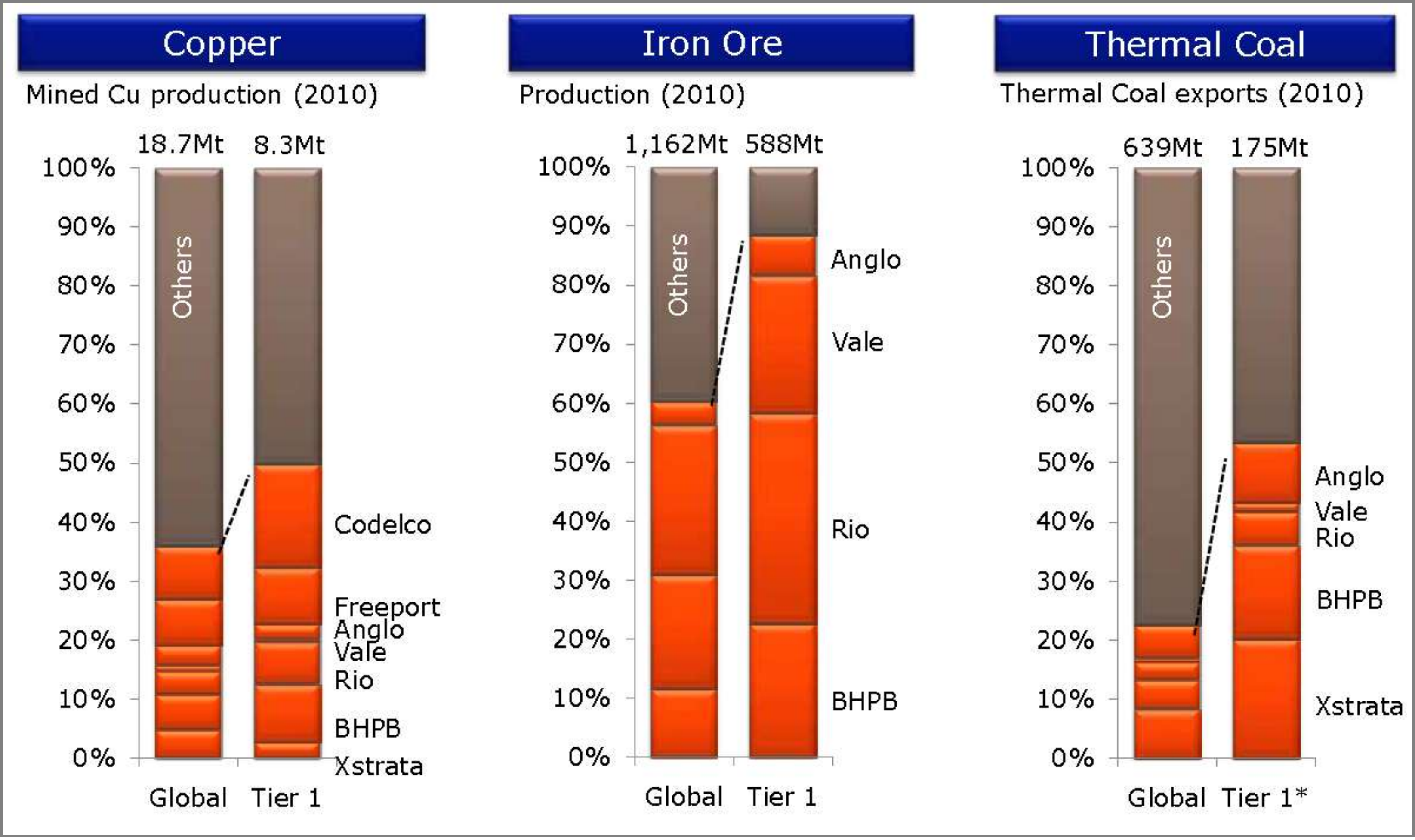
Low costs are dominated by Majors



From Mining: Opportunities and Challenges - Mick Davis - CEO Xstrata - MCA Minerals Week June 2011

Tier 1 is defined as being in first half of global cost ranked by C1 cost, and upper quartile of the world's mines ranked by output

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Need Clear Management Strategies

- Investors need to understand the company strategy and risk/reward drivers
- Exploration success
- Development value add
- Production efficiency
- Trading, Investment and Royalties
- Key people 100% dedicated to venture
- Evaluate as a whole
- Niche markets or sell to majors

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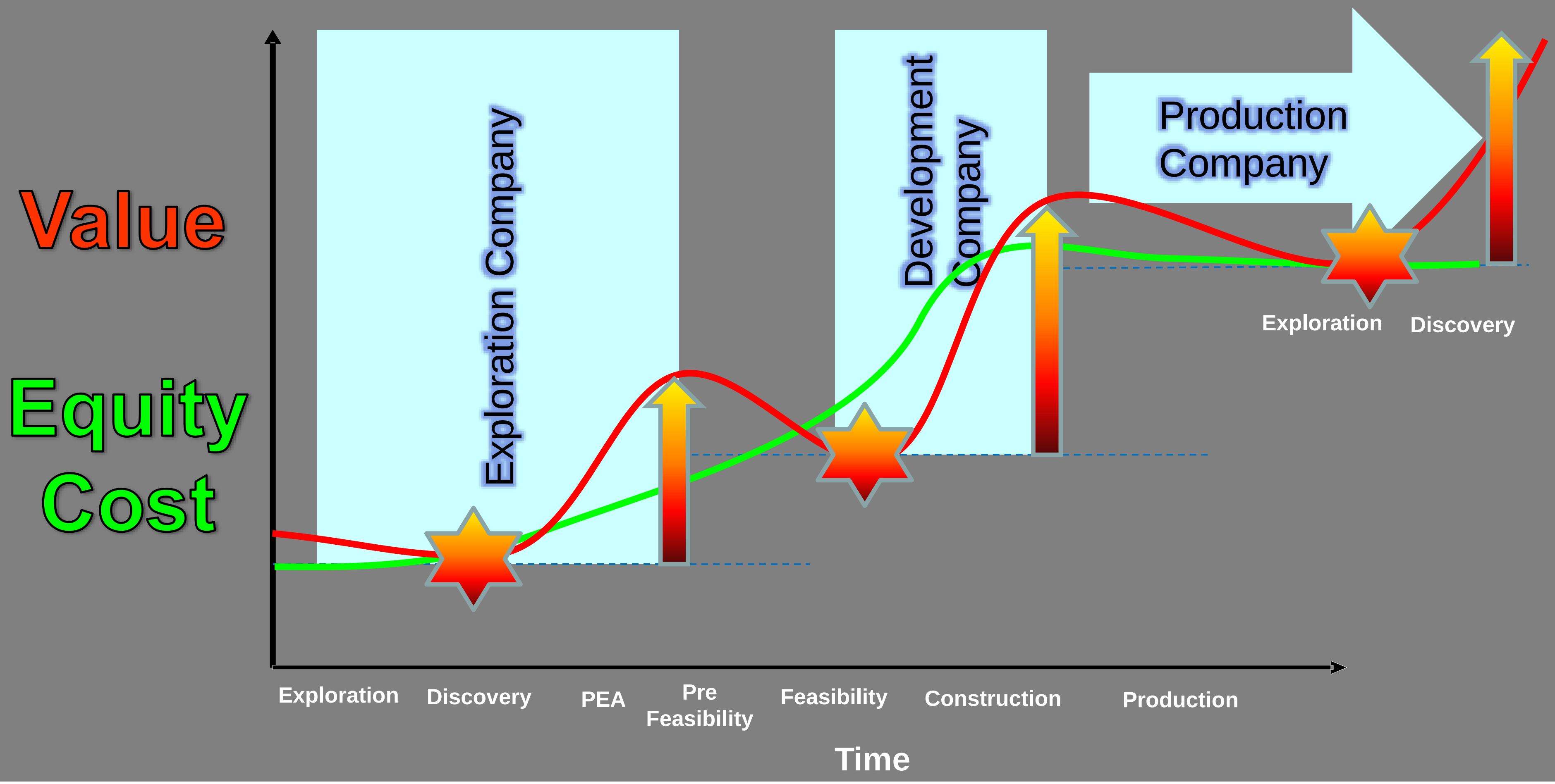
Value Waves

Burleigh Heads, March 16, 2010. Photo: Shield. www.seahopedaily.com

Value Waves



Value
Equity
Cost
Exploration Company
Development Company
Production Company
Exploration
Discovery
Exploration
Discovery
PEA
Pre Feasibility
Feasibility
Construction
Production
Time

In Summary

- Consider C3 as well as C1
- Don't expect to match the Majors
- Company clearly focused on stage of the value wave.
- Board and senior management with technical understanding of the company's assets 100% committed.
- Quality advisers provide another view.
- Strategic planning for high potential projects; to reach long-term company objectives.
- Detailed analyses – key to successful project outcome; provides support and reassurance to investors.
- Transparency and materiality to investors.

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