

Optimizing Risk versus Reward in Exploration

Marcus Randolph
President Diamonds and Specialty Products

AusIMM, Sydney , September 2003

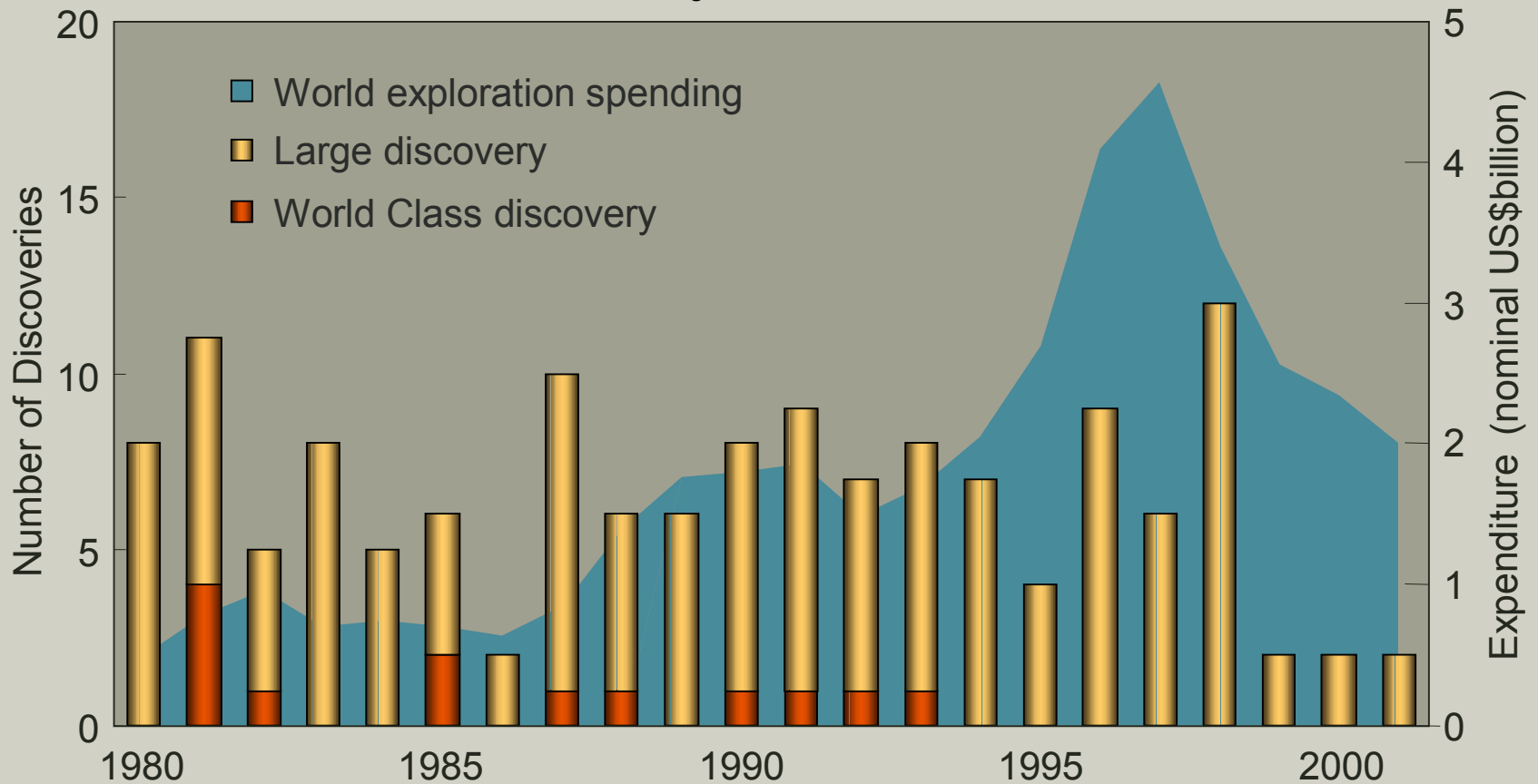


bhpbilliton

Risk of Non-Discovery is increasing.....

World Class and Large Discoveries versus Exploration Expenditure

13 World Class and 125 Large discoveries between 1980 - 2001



Data Source: BHP Billiton internal compilation

Key Strategies to Mitigate and Manage Risk

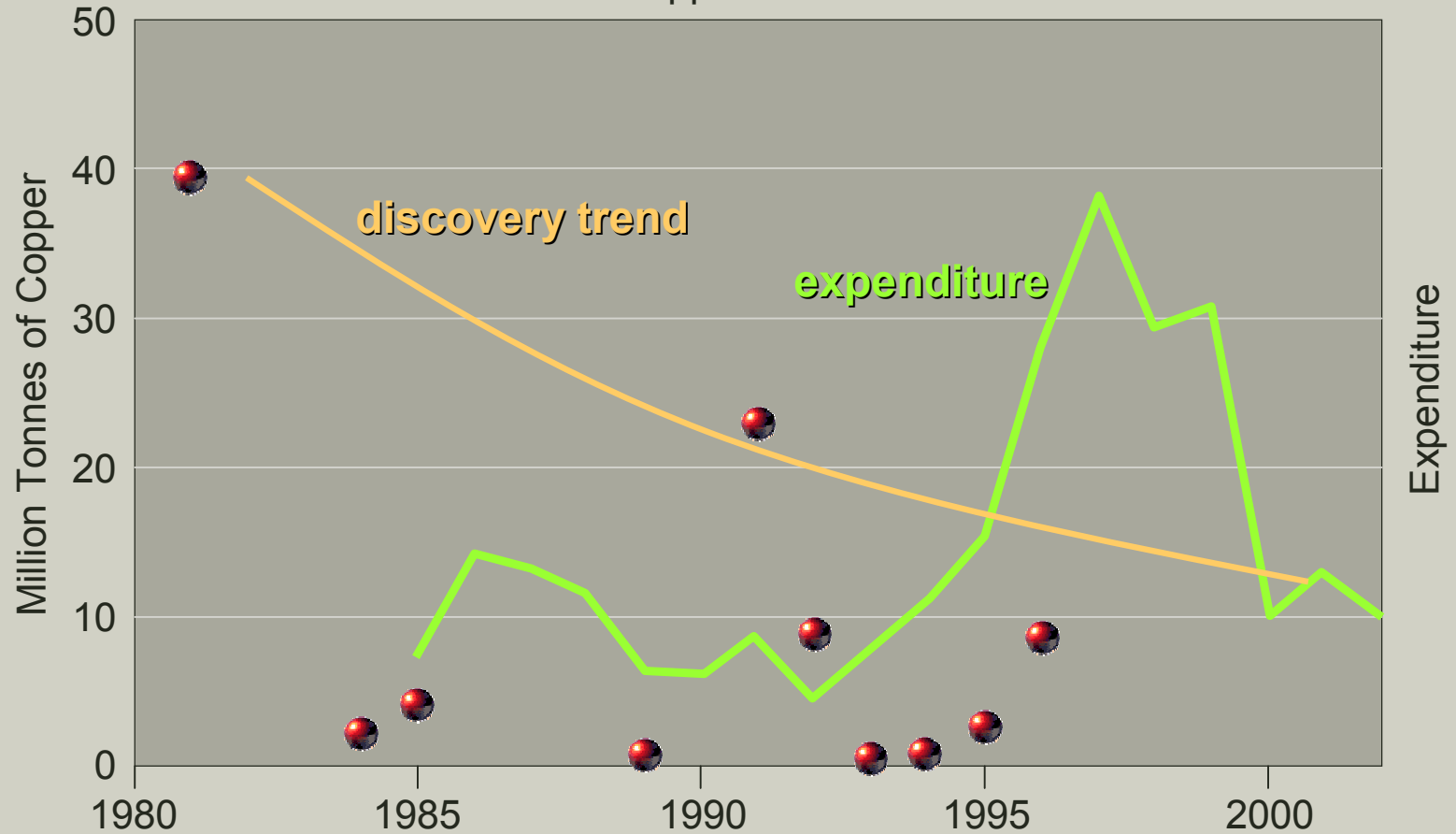
- Terrain Selection – Get in early
- Maximize Value - Leave projects with their natural owner
- Commitment - Consistent funding and clear strategy
- Planning - Be prepared for success
- Understand Risk - Quantify Risk and Value Changes
- Cut your losses - Ruthlessly cut projects that miss milestones



1. Terrain Selection – Get in Early

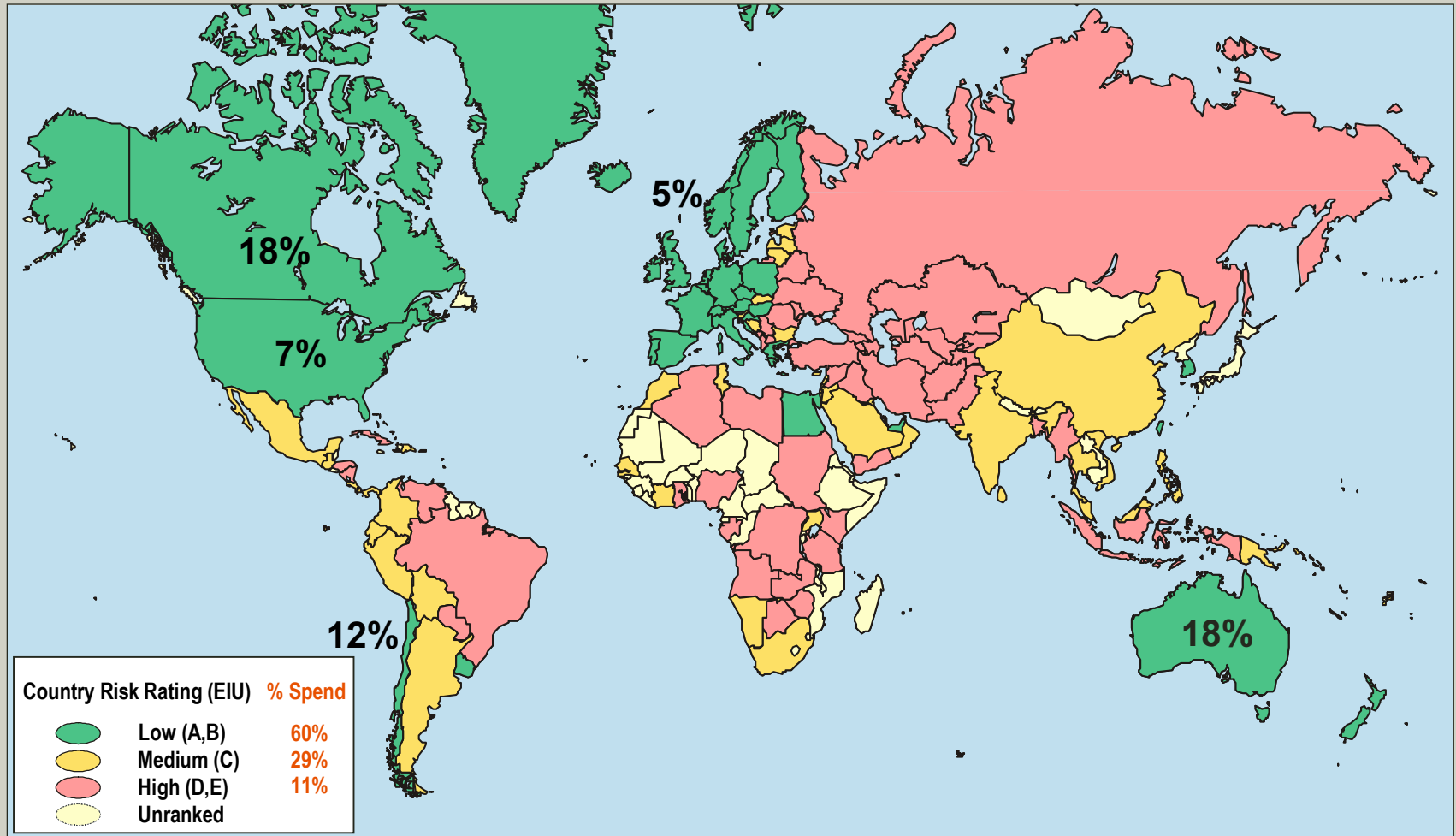
Exploration Results in Chile

Contained Copper discovered in Chile



Data Source: BHP Billiton internal compilation

1. Terrain Selection – Explorers seek low political risk & high technical risk



Data Source: MEG 2002

2. Maximize Value - Leave Projects with their Natural Owner

Potential value lost between 1981 and 2003 by BHP

Market Valuation of Projects Divested US\$514M

Actual amount received US\$264M

Potential lost value US\$250M



BHP Exploration spend over this period

US\$1,340M

3. Commitment - Consistent Funding & Clear Strategy

- 🕒 Global target prioritisation
- 🕒 Budget only to the next Key Decision Point (not annually)
- 🕒 Clarity about what you will **not** look for is as important as clarity of what you will.



Good results require technical competence and consistent funding over sufficient time to deliver a result

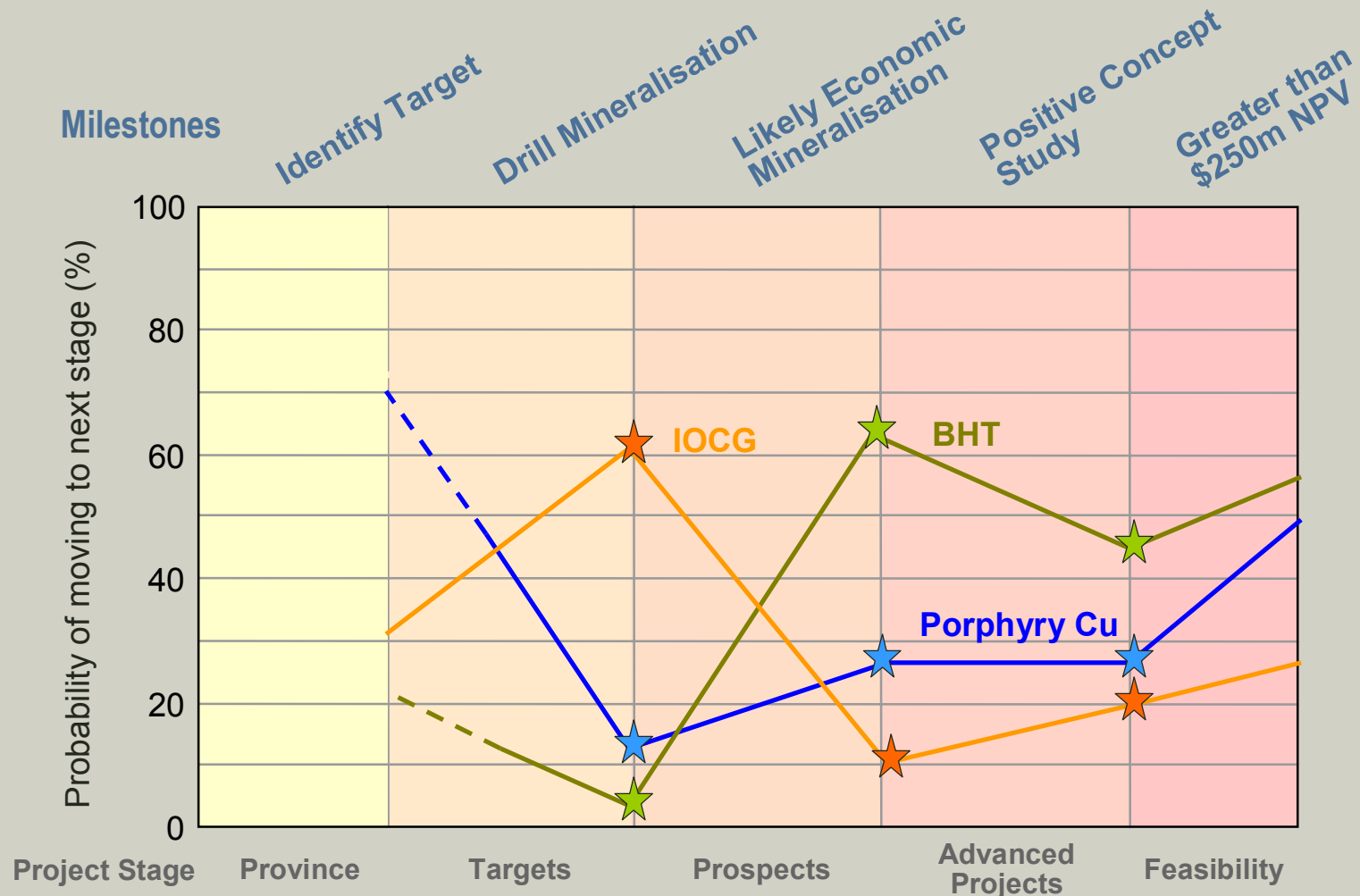
4. Planning - Be prepared for Success

- Unambiguous agreements with governments
- Strong “Social License to Operate” with local communities
- Aligned Partners



5. Understand Risk – Quantify Risk & Value Changes

Different deposit styles have different risk profiles



6. Cut your losses - Ruthlessly cut projects that miss milestones

- As the probability of success drops, the exploration spend needs to be cut

- Aqua Rica – US\$30M over ten years

(sold for US\$13M)

- Hope Bay Gold – US\$50M over ten years

(sold for US\$23.5M)



**Are you sure, that if you find what you're looking for,
you will want to develop it?**

Conclusions

- Industry Consolidation has left majors looking to Exploration for growth
 - but with improved performance (through risk management)
- Junior Explorers still driven by the need to access cash
 - but investors are looking for improved performance and returns (through risk management)

The successful Explorers over the next decade will be those that embrace effective risk management