# Optimizing Risk versus Reward in Exploration

Marcus Randolph President Diamonds and Specialty Products

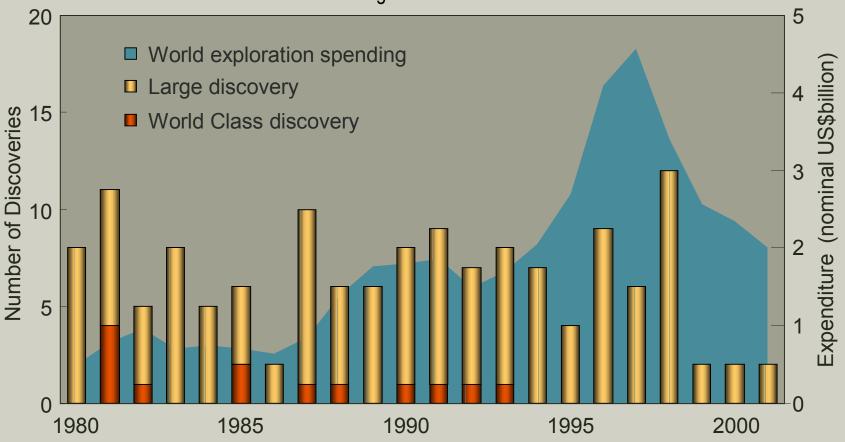
AusIMM, Sydney, September 2003



# 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

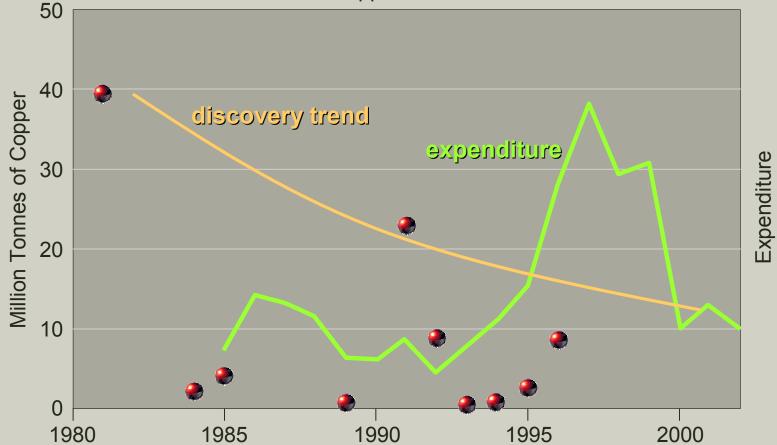
- Terrain Selection Get in early
- Maximize Value Leave projects with their natural owner
- Commitment Consistent funding and clear strategy
- Planning Be prepared for success
- Understand Risk Quantify Risk and Value Changes
- Cut your losses Ruthlessly cut projects that miss milestones



#### 1. Terrain Selection – Get in Early

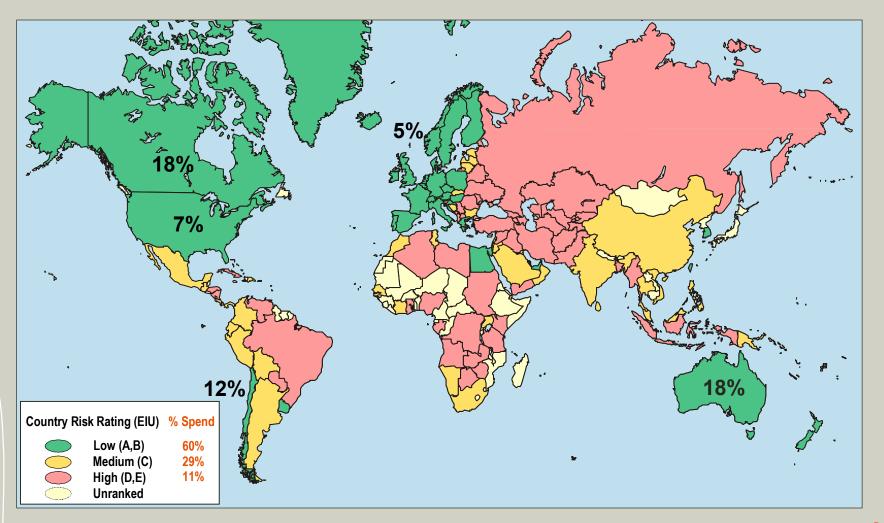
#### **Exploration Results in Chile**

Contained Copper discovered in Chile





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



Data Source: MEG 2002



Potential value lost between 1981 and 2003 by BHP

Market Valuation of Projects Divested Actual amount received

Potential lost value

US\$514M US\$264M

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

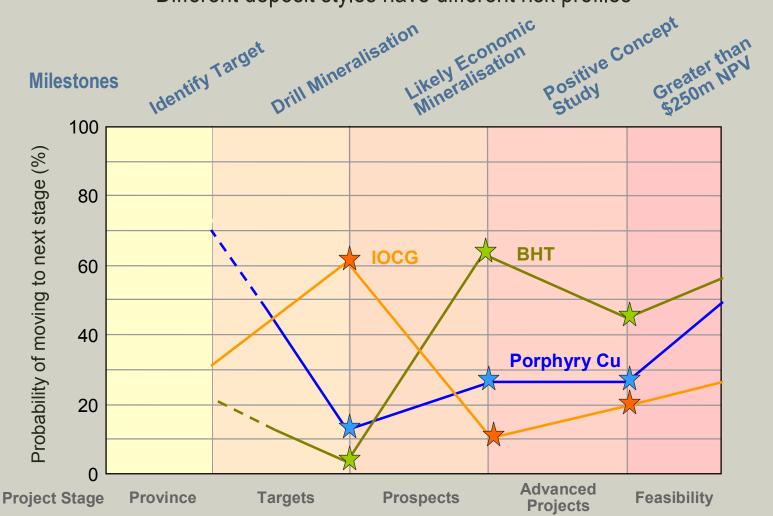
Strong "Social License to Operate" with local communities

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

