Wealth Creation Through Sustained, Successful Mineral Exploration – The WMC Experience

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Some exploration groups perform significantly better than others, both in terms of number of discoveries and financial return.

- What are the conditions necessary to produce sustained success in an exploration organization?

- Case history summary - WMC Exploration
WMC Exploration History

- $ AUD 1.8 billion invested (constant 2004 dollars)
- 149 separate discoveries
  - 92 grass roots
  - 57 mine environment
  - 60 % of discoveries developed to mine

Sources: Woodall, 2004; R.Schodde pers.comm.
WMC Exploration History

• **Estimated metal discovered**
  - Gold – 96 million ounces
  - Copper – 57 million tonnes
  - Nickel – 5 million tonnes
  - Uranium oxide – 1.6 million tonnes
  - Zinc – 0.5 million tonnes

• **Estimated in-situ value:** $ US 150 billion

Source: R Schodde pers.comm.
WMC Key Discoveries

- **Darling Ranges Bauxite** (Western Australia)
  - Alcoa JV, AWAC, Alumina Ltd.

- **Kambalda Ni** (Western Australia)
  - Kambalda town, nickel smelting & refining complex

- **Olympic Dam Cu-U-Au** (South Australia)
  - Roxby Downs, ODO complex
WMC Significant Discoveries

Yeelirrie (U)
St. Ives camp (Au)
Nifty (Cu)
Ernest Henry (Cu-Au)
Tampakan (Cu-Au)
Tiriganiaq (Au)
Sertao (Au)
West Musgrave (Ni)
WMC Market Capitalization 1950 - 2000

$ AUD Millions in real terms – 5 year moving average


Sources: Bloomberg, ComSec
Exploration vs Acquisition

- WMC was more successful adding value through exploration than acquisition
  - In some cases value creation was in the long term
- From its inception, WMC consistently supported exploration
- Three key drivers for successful culture
Key Conditions for Sustainable Performance

- Consistent management support
- Excellent people
- Commitment to innovation
Management Support

- Strong Board and Executive support
- Technical leaders on Board and-or Executive team
  - Robust technical discussion
  - Performance measurement and understanding of risk
  - Long-term business horizon
  - Trust and confidence
Excellent People

Recruitment – what attributes did WMC look for?

- Solid academics
- Passion and commitment
- Intense curiosity
- Drive to succeed

Finding and retaining people with these attributes is hard work
Excellent People

Competency and capability

- Commitment to continuous learning
- Individual training plans
- Study leave options

Geoscientist rotation between mine operations, mine-area exploration, and global exploration was a very beneficial strategy for WMC.
Excellent People

Specialists and multi-disciplinary teams

- Focused application of competencies and skill sets
- Good for morale and camaraderie
- Specialist vs Generalist – always a debate

Worked well for WMC – especially in execution phase
Excellent People

Exploration staff consistency

- Of 300 geoscientists hired by WMC from 1933 to 1995:
  - 50% worked 10 or more years
  - 30% worked 10 - 19 years
  - 15% worked 20 - 29 years

- Head of Exploration changed 3 times in 40 years

Data partially from Reid, 1998
WMC was committed to innovation based on solid science

- Deliberate activity aimed at creating value
- Managed process
- Expected and rewarded
Innovation – WMC Examples

- Aerial photography in 1930’s
- Low-detection analysis for gold
- Geophysics (TEM, Geoferret)
- Conceptual exploration targeting models
Summary

What are the conditions necessary to produce sustained success in an exploration organization?
Summary

In the case of WMC, a company characterized by successful exploration over a 50-year period, the conditions seem to be:

- **Management Support**
  - Consistent at top level, with long-term view
  - Leadership that both creates space and maintains discipline

- **Excellent people**
  - Recruit well, then build competency and capability

- **Innovation**
  - Deliberate process to create value
Thank You