



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

**Barton J. Suchomel**

# Mineral Exploration Performance

- 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)**

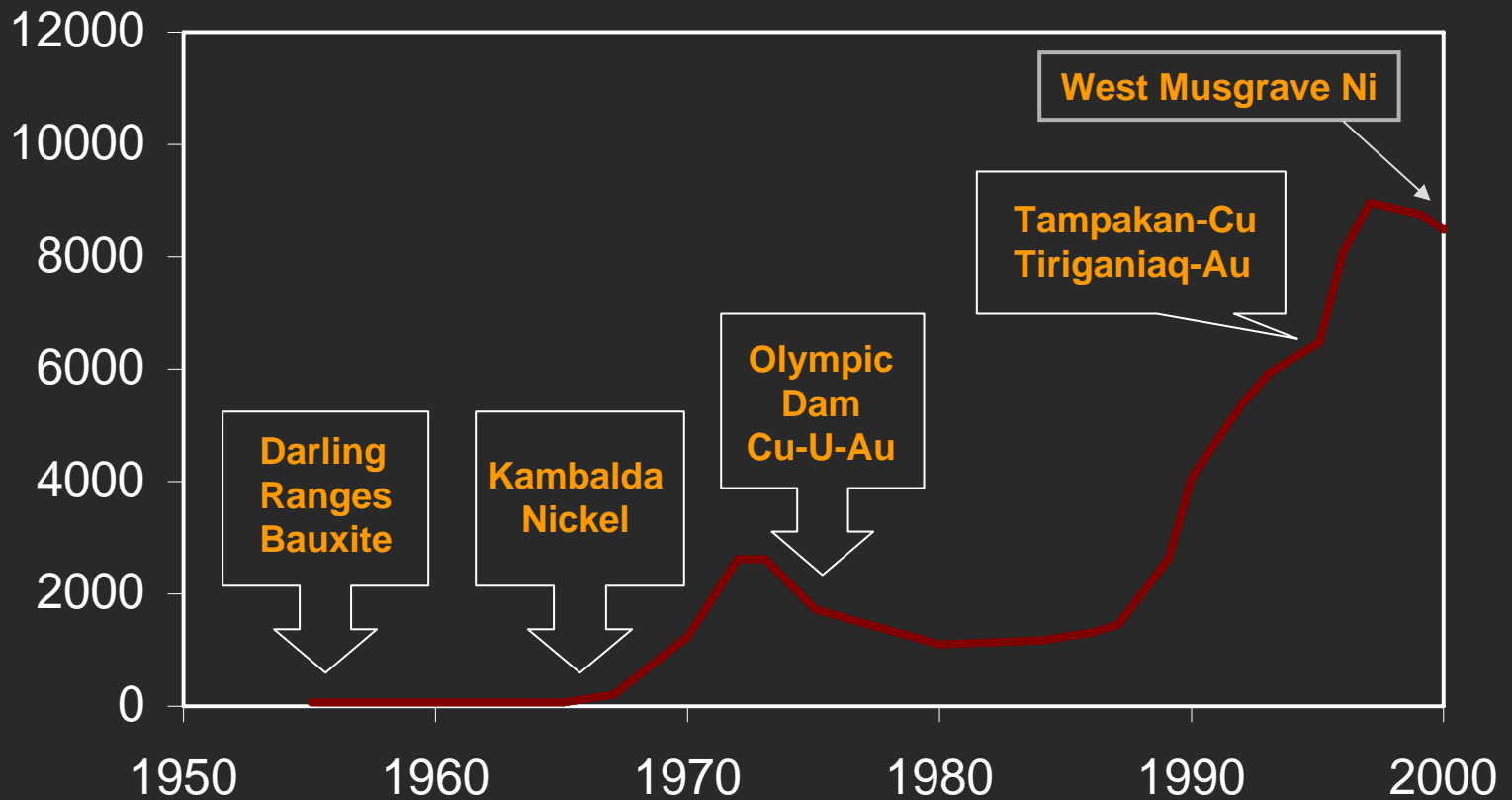
**Tiriganiaq (Au)**

**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*



# Innovation

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, Geoferreret)
- 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**