Rio Tinto Exploration strategy and exploration in Australia

Ian Ledlie
Exploration Director – Australia-Asia Region
Diggers and Dealers 2015
3 August 2015
Cautionary statement

This presentation has been prepared by Rio Tinto plc and Rio Tinto Limited ("Rio Tinto"). By accessing/attending this presentation you acknowledge that you have read and understood the following statement.

Forward-looking statements

This document contains certain forward-looking statements with respect to the financial condition, results of operations and business of the Rio Tinto Group. These statements are forward-looking statements within the meaning of Section 27A of the US Securities Act of 1933, and Section 21E of the US Securities Exchange Act of 1934. The words “intend”, “aim”, “project”, “anticipate”, “estimate”, “plan”, “believes”, “expects”, “may”, “should”, “will”, “target”, “set to” or similar expressions, commonly identify such forward-looking statements.

Examples of forward-looking statements include those regarding estimated ore reserves, anticipated production or construction dates, costs, outputs and productive lives of assets or similar factors. Forward-looking statements involve known and unknown risks, uncertainties, assumptions and other factors set forth in this presentation.

For example, future ore reserves will be based in part on market prices that may vary significantly from current levels. These may materially affect the timing and feasibility of particular developments. Other factors include the ability to produce and transport products profitably, demand for our products, changes to the assumptions regarding the recoverable value of our tangible and intangible assets, the effect of foreign currency exchange rates on market prices and operating costs, and activities by governmental authorities, such as changes in taxation or regulation, and political uncertainty.

In light of these risks, uncertainties and assumptions, actual results could be materially different from projected future results expressed or implied by these forward-looking statements which speak only as to the date of this presentation. Except as required by applicable regulations or by law, the Rio Tinto Group does not undertake any obligation to publicly update or revise any forward-looking statements, whether as a result of new information or future events. The Group cannot guarantee that its forward-looking statements will not differ materially from actual results. In this presentation all figures are US dollars unless stated otherwise.

Disclaimer

Neither this presentation, nor the question and answer session, nor any part thereof, may be recorded, transcribed, distributed, published or reproduced in any form, except as permitted by Rio Tinto. By accessing/attending this presentation, you agree with the foregoing and, upon request, you will promptly return any records or transcripts at the presentation without retaining any copies.

This presentation contains a number of non-IFRS financial measures. Rio Tinto management considers these to be key financial performance indicators of the business and they are defined and/or reconciled in Rio Tinto’s annual results press release and/or Annual report.
RTX Traditional Owner Engagement

It often starts with exploration

Holistic and lifecycle approach to Indigenous engagement across Rio Tinto

Four key platforms

✔ Regional development and land access agreements
✔ Community capacity building
✔ Cultural heritage and land management
✔ Funding bodies that support Indigenous-directed programmes

Rio Tinto supports the national Recognise campaign for constitutional recognition of Aboriginal and Torres Strait Islander
Rio Tinto Exploration 2015 operational footprint
Exploring for 8 different commodities across 18 countries
65 year track record

Discovery success

Founding discoveries for key product groups

Australian discoveries since 1990

© 2015, Rio Tinto, All Rights Reserved
Rio Tinto significant discoveries – 2000 to 2014

Majority of Rio Tinto discoveries since 2000 are outside the OECD

- Saskatchewan, 2012, potash
- Resolution, 2002, copper
- Potasio Rio Colorado, 2000, potash*
- Eagle, 2004, nickel**
- Simandou, 2004, iron ore
- La Granja, 2005, copper
- Amargosa, 2011, bauxite
- Jadar, 2009, borate/lithium
- Bunder, 2008, diamonds
- Sulawesi, 2008, nickel laterite***
- Mutamba, 2008, mineral sands
- Yandi Braid, 2014, iron ore
- Caliwingina, 2005, iron ore

*sold to Vale in 2009  **sold to Lundin in 2013  ***sold in 2014
The key to value creation is rigorous opportunity prioritisation

100% of targets
- Exploration on an industry-wide basis is a high-risk activity
- Success - the creation of value - demands ongoing rigorous testing and prioritisation of opportunities

<0.1% of targets
- Getting the process right requires technical expertise, high-quality management and rigorous prioritisation

© 2015, Rio Tinto, All Rights Reserved
Why has RTX been a successful “Major” exploration team?

Safely and effectively conduct exploration in all jurisdictions

World class social and environment “license to operate”

Longevity, stable exploration strategy, company and corporate executive support and sustained funding

Prime Terranes and global prioritisation to aid balancing technical and operational risk across greenfield and brownfield projects

Focused and motivated team, fast adoption of key research

Fieldwork and drilling

Treat exploration like a business and pay our way - *in the last decade*

- **US$1.7b spent on greenfield exploration**
- **US$2.2b generated from pre-decision to mine divestments**
Exploration spend and discovery rate

Significant mineral discoveries & expenditures (excluding bulk commodities)

Significant* mineral discoveries (excluding bulk commodities)

Western world: 1996 - 2014

Total number of discoveries (1996 – 2014): 1031

Caution: Incomplete discovery data in recent years

*Significant defined as >100Koz Au, >10Kt Ni, >100Kt Cu equiv, 250Kt Zn+Pb, >5Moz Ag, >5kt U₃O₈

Source: Discoveries & expenditures - MinEx Consulting June 2015
Industry context – Australia

Australian exploration spend continues to decline

Drilled metres on existing (brownfield) and new (greenfield) projects
All mineral commodities

Expenditures

Metres drilled; existing deposits

Metres drilled; new deposits

Expenditures

Source: Australian Bureau of Statistics - From July 2000 value data no longer contains wholesale sales tax.

*2015 expenditures based on an estimate (actual expenditure from Jan–Mar: US$B0.2)
Non-technical barriers to exploration
(Australian Government Productivity Commission Inquiry – 2013)

- Increasingly longer time frames from concept to testing are impacting success rates

- In many instances, the first year of a licence period can be exhausted by the need to gain the necessary regulatory approvals truncating the time left for actual exploration activity

A work program must be submitted with the application, but may not be part of the decision-making process.

Jurisdictions require different environmental, heritage and land access agreements to be completed at different stages of the exploration licence approval process.

Source: Australian Government Productivity Commission Inquiry Report September 2013
Non-technical challenges to exploration – Australia & Canada

Timeframes for license access for exploration

<table>
<thead>
<tr>
<th>Exploration Process</th>
<th>Australia Average timeframe (months)</th>
<th>Canada Average timeframe (months)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Concept</td>
<td>6 - 12</td>
<td>6 – 12</td>
</tr>
<tr>
<td>Application for claims</td>
<td>9</td>
<td>0.25</td>
</tr>
<tr>
<td>Permits or work access approvals for ground work* (sampling, drilling, etc)</td>
<td>18 – 60</td>
<td>2</td>
</tr>
<tr>
<td><strong>Total</strong> (months)</td>
<td>~ 33 – 75</td>
<td>~ 8 – 14</td>
</tr>
<tr>
<td><strong>Total</strong> (years)</td>
<td>~ 2.7 – 6.2</td>
<td>~ 0.6 – 1.2</td>
</tr>
</tbody>
</table>

Trend in time

|                      | Slow improvement | Increase |

- Timeframes to commence ground disturbing work are significantly shorter in Canada than Australia
- In WA the “POW” is now down to approximately 28 days, from 45 days in 2012
- Improvements are happening but not in all States and not fast enough

Source: Australia - Rio Tinto Exploration Pty Ltd experience post 2000; WA government – July 2015; Not all States have the same trend
*Includes negotiations with all stakeholders
Longevity of multi-commodity exploration across Australia

A selection of RTX discoveries-divestments:
- Century/Dugald River Zinc
- Kintyre Uranium
- Peak Gold Mine
- Honeymoon Well Nickel
- Westmoreland Uranium
- WIM 150 HMS
- Ellendale Diamonds
- Admiral Bay Zinc
- Jowlenga HMS
- Uley Graphite

Active Programmes
- Aluminium
- Copper & Coal
- Diamonds & Minerals
- Iron Ore

Continuing to replenish the pipeline
100% RTX and through JV’s with key partners in prime terranes

Recent & current JV’s
- Cameco Australia Pty Limited
- Pepinnini Minerals Limited
- DPG Resources Australia Pty Limited
- TNG Limited
- Aeon Metals Limited
- Laramide Resources Limited
- Intercept Minerals Limited
- Tasman Resources Limited

© 2015, Rio Tinto, All Rights Reserved
We have access to vast quantities of geoscientific data

Australia surface samples*: >3.5 million
Rio Tinto Exploration pulp store + diamond legacy samples in Australia is a valuable and accessible archive
Where are the equivalent petrophysical data
RTX Global Public Geochemical Database (GPG); Total global surface samples: >10 million
Greenrocks Vision
Epidote and Chlorite vectoring - A distal indicator of porphyry Cu deposits

Rio Tinto Exploration is the only exploration company with the in-house capability to apply such techniques.

Modified from Holliday and Cooke, 2007; AMIRA P765A
Improving discovery rates
Combination of old and new technologies and effective data integration yielding knowledge

Traditional methods
Data Integration

Discovery Success

VK1 gravity gradiometer
New technologies and concepts
RTX mineralogy centre – Greenrocks & RIMS

© 2015, Rio Tinto, All Rights Reserved
Uncover

To **improve discovery rates**, in particular in areas of post mineral cover, we need:

✓ Improve industry-academia-government collaboration

✓ Focus on data compilation and acquisition to deliver critical insights to drive discovery

✓ Increase the search radius by targeting alteration footprints

RTX Commitment by sponsoring AMIRA Roadmap, member of Executive and Geoscience committees, petrophysical data contribution

AMIRA Roadmap (Stage 1) was launched by Minister MacFarlane on the 22nd July
RTX Mineral Industry Engagement in Australia

Links to geological surveys and universities across Australia

Employment of graduates throughout cycle

Sponsorship of 1 on 1 research projects and through collaboration

Adopting global collaborative research outcomes into operational exploration tools in Australia

RTX is a potential R&D / Technology Development partner
Conclusions

• The mineral exploration industry has entered an extended period of cyclical adjustment
• The minerals exploration industry has come off a decade of unprecedented expansion
• However, in that period discoveries have generally fallen below trend
• Over the last decade have witnessed significant uplifts in resources through brownfield drill-outs
• The capital markets remain largely closed to Juniors
• Regulatory hurdles continue to rise and time to granted title is generally on the rise
• The industry has yet to develop an effective toolkit to allow cost effective exploration through cover
• Finally, to sustain the significant production expansion the mining industry has witnessed over the past decade new high quality discoveries are required