

# Presentation to 61<sup>st</sup> Minesite Mining Forum

17 September 2009

## JUBILEE/BRAEMORE: THE ENLARGED COMPANY



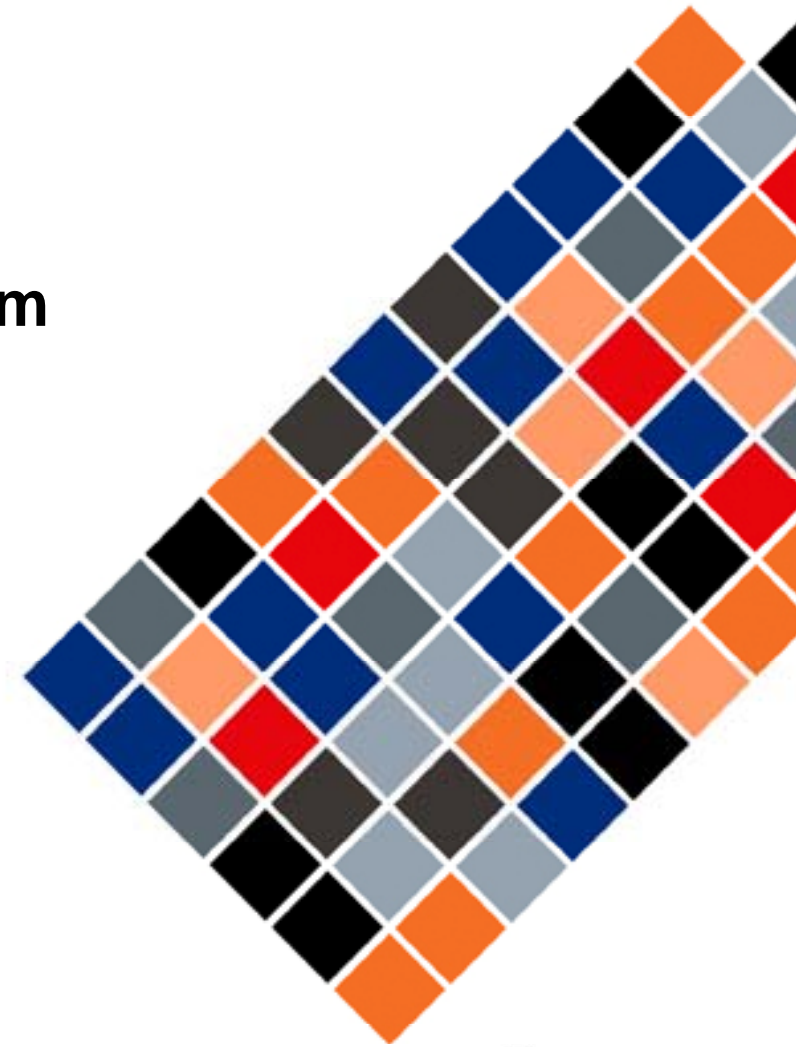
A 'Total Capability' Company

[www.jubileeplatinum.com](http://www.jubileeplatinum.com)

Braemore Resources plc

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# The enlarged 'Total Capability' Company

- **Flagship Tjate Project**
  - attributable **16Moz 6PGE\*+Au** (SAMREC Code), first mine
  - attributable **44Moz 6PGE+Au** (targeted over total area\*\*)
- **ConRoast**
  - proven processing route
  - lower capital, energy efficient and environmentally friendly
- **Australian Nickel Projects**
- **Short-, medium- and long-term cash flows to emerge**
- **Targeting mid-cap sector**
- **Prospects**
  - ConRoast can process base metal projects globally
  - Meets SA platinum industry smelting requirements
  - Hydromet refining of smelt to produce high value semi-refined PGEs
  - Combined company has near total capability
  - Australian nickel projects
  - **164 million tonnes** in surface tailings containing **485 000 tonnes** nickel

\*Platinum Group Elements \*\* before geological losses

# Mission

- **Short-term cash flow [ $\pm 1$  month]**

- ConRoast
- Feed source
- furnace

operations resumed

converter slag, mine fines, UG2 concentrate

3.2MW (4MVA), 2 200 tpm, plus pilot hydromet refining

- **Medium-term cash flow [ $\pm 6$  month]**

- Additional feed
- Bigger DC furnace
- Develop group potential

surface tailings and “revert” tailings

install 8MW (10MVA) 6 000 tpm

treat other junior’s PGE concentrates

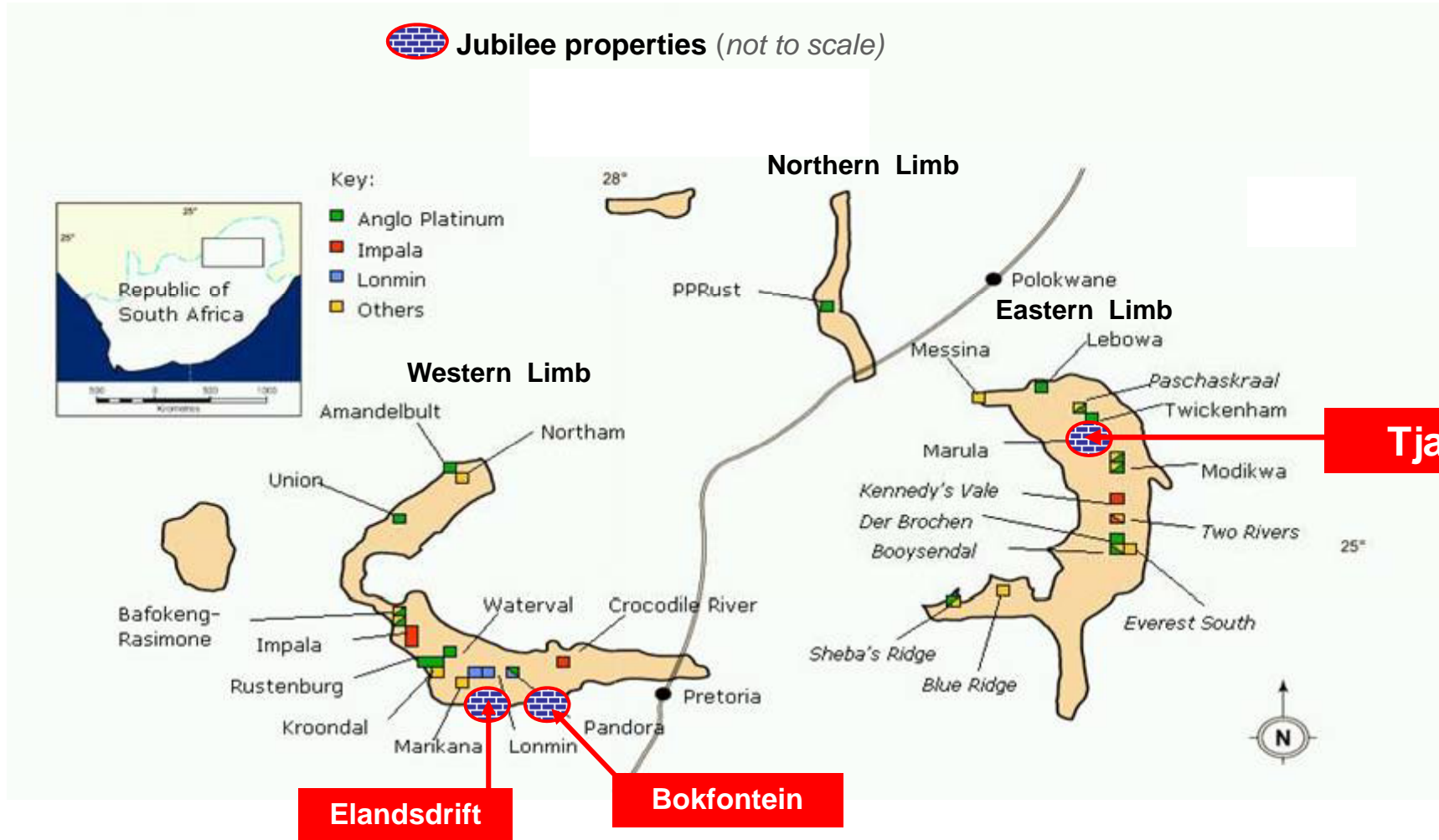
- **Long term cash flow [ $\pm 18$  month]**

- Develop Tjate
- Nickel Australia

total capability - produce semi-refined PGEs, Ni, Cu

485 000t Ni metal in surface tailings

# The Bushveld Complex



Map reproduced with permission of Johnson Matthey

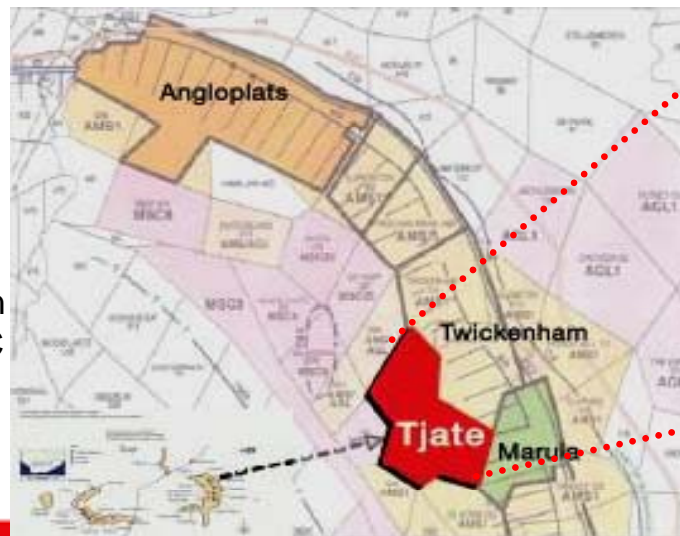
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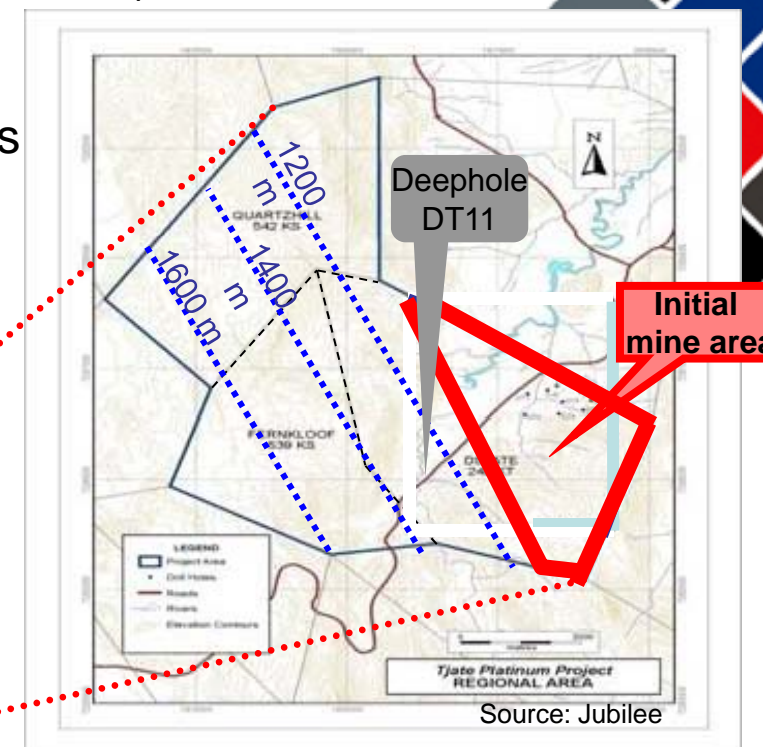
# Tjate: location and project area

- Three contiguous farms 5 143ha
- Down dip of Implats' Marula, Angloplats' Twickenham mines
- Merensky grade 4.7g/t (3PGE+Au) over 110 cm reef thickness (SAMREC)
- UG2 grade 5.7g/t (3PGE+Au) over 124 cm reef thickness (SAMREC)
- Prill splits similar to average eastern Bushveld
- Targeted resources of 70Moz (6PGE+Au)\* on three Tjate farms

\* before geological losses



Tjate Project location in eastern limb of BC

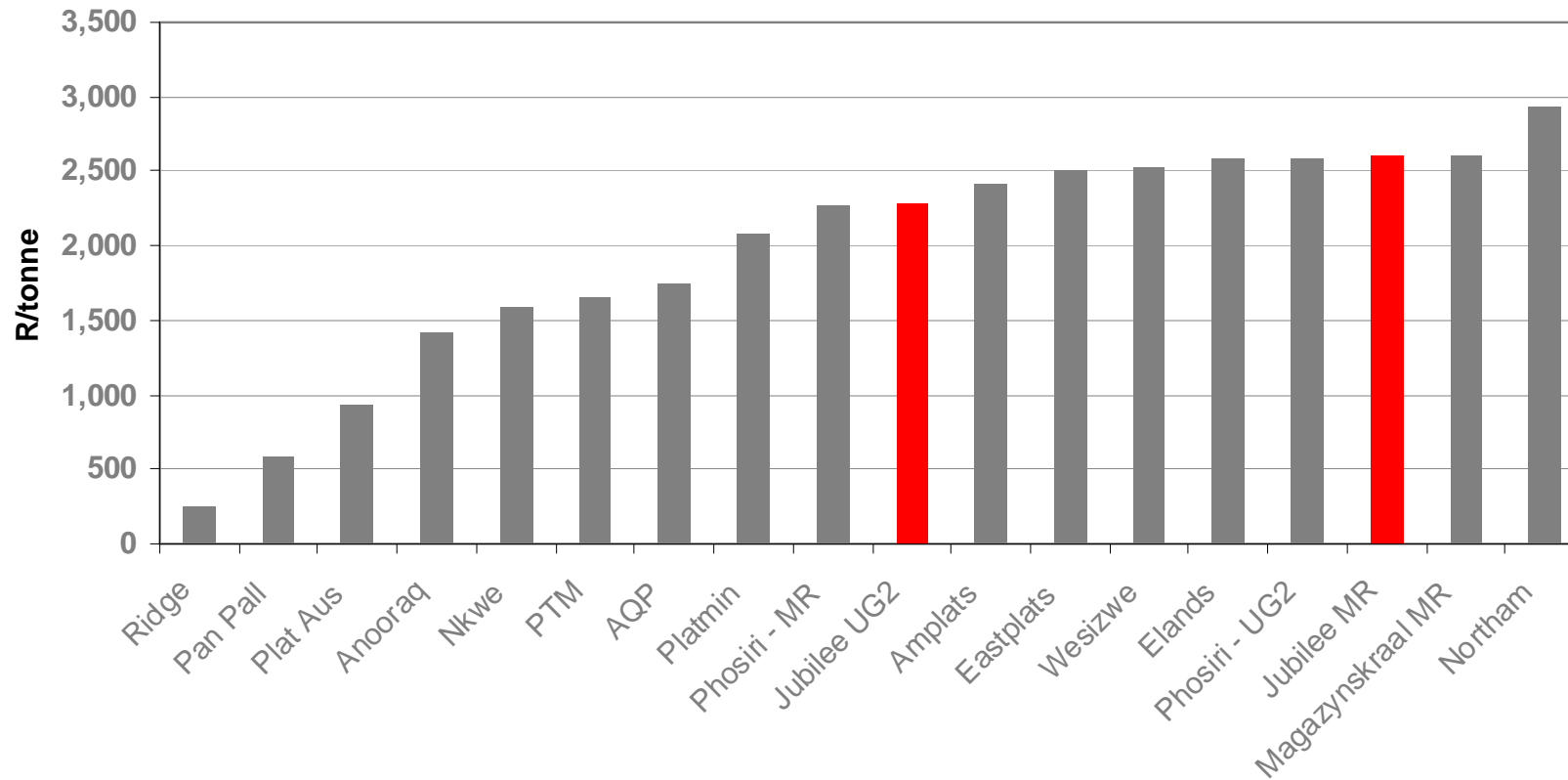


Merensky depth

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# Jubilee by comparison

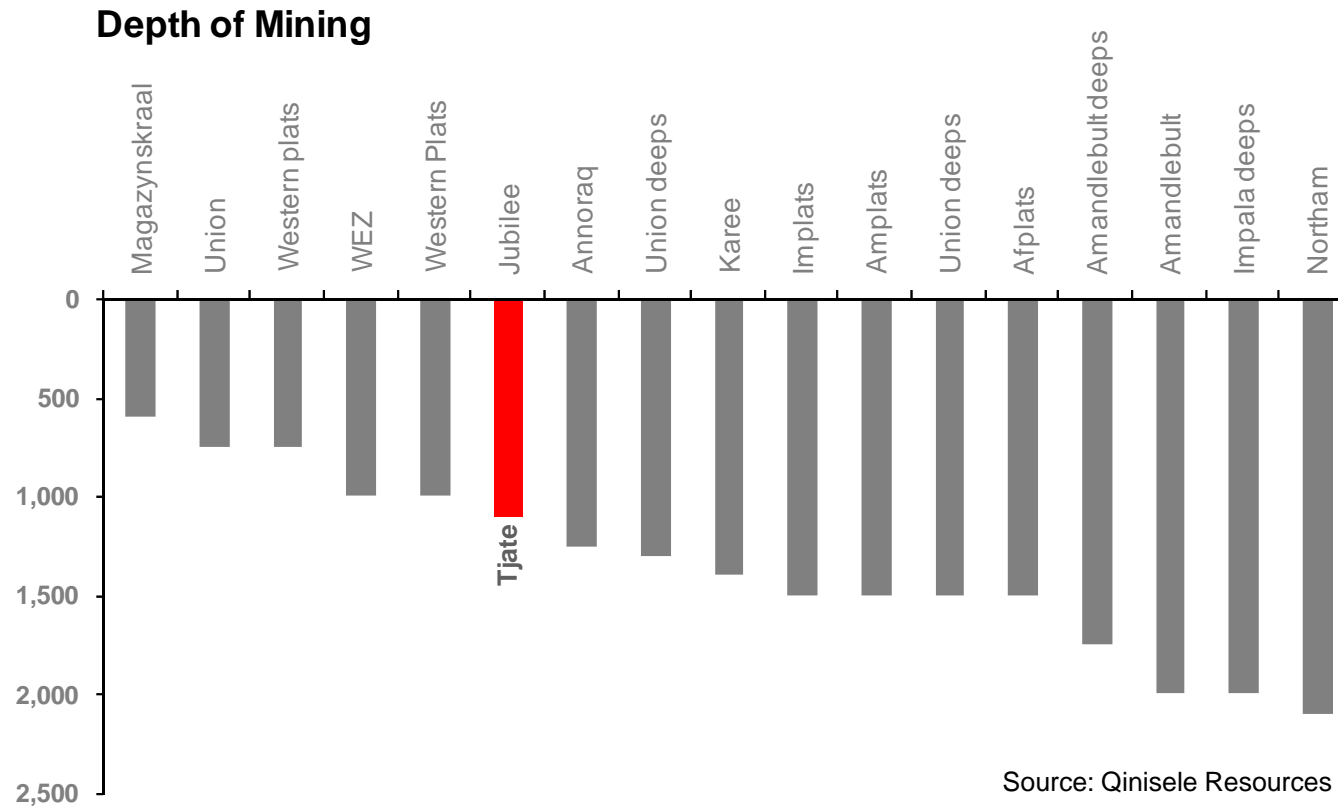
Contained value per tonne ore



Source: Qinisele Resources based on 15 March spot prices

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# Jubilee by comparison, cont'd



- The depth of 600m to 1 200m of the initial development compares favorably with mainstream operations which currently average depths of around 1 400m
- Majors' new shafts averaging 1 800 to 2 200m depth



# Tjate Mineral Resource estimate (SAMREC)

Classification	Tonnes Million	3PGE+Au* g/t	3PGE+Au* Million oz
Indicated	11 561 359	5.28	1.964
Inferred	120 919 133	5.24	20.365
Total	132 480 493	5.24	22.329

Reef	Tonnes Million	Width m	3PGE+Au g/t	3PGE+Au Million oz
Merensky	56 273 224	1.10	4.66	8.429
UG2	76 207 269	1.24	5.67	13.900

**The world's largest undeveloped block of defined platinum ore**

\*3PGE: platinum, palladium, rhodium Au: gold

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# Tjate: scoping study on initial development

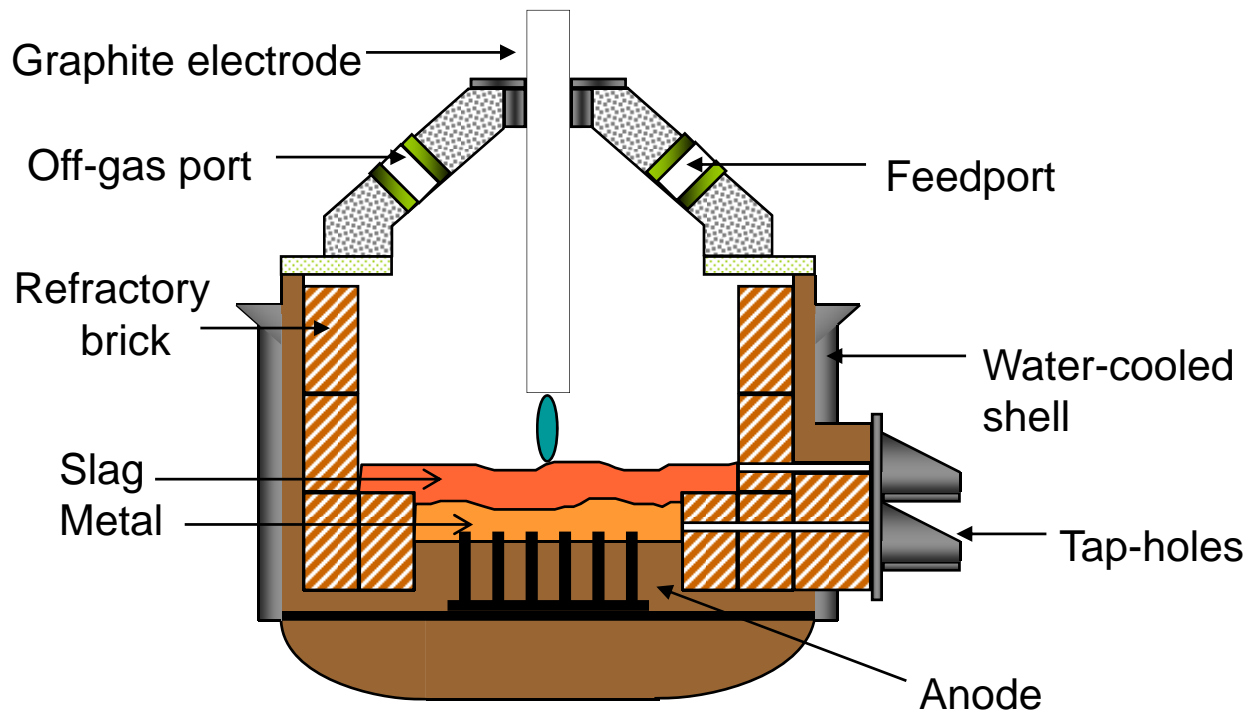
## Key assumptions – Initial development (15% of total resources – Merensky only)

ROM grade	5.0g/t (3PGE+Au); 0.22% Ni; 0.13% Cu
Resource	47m tonnes from 600m to 1 100m
Production	335 000 oz per annum (3PGE+Au)
Life of Mine	20 years (full production)
Throughput	200 000 t/month
Operating cost	R350/tonne ore
NPV	\$1.2 BILLION AT 5% DISCOUNT

## Tjate valuation

Case	Pt price \$/oz	Basket \$/oz	NPV (\$m) @ Real rate			
			5%	7.5%	10%	12.5%
<b>Base</b>	<b>1300</b>	<b>1137</b>	<b>1 200</b>	<b>820</b>	<b>580</b>	<b>400</b>
>Base	1500	1255	1 400	970	690	490
> Base	1700	1373	1 600	1 100	790	570

# CONROAST



# Why ConRoast?

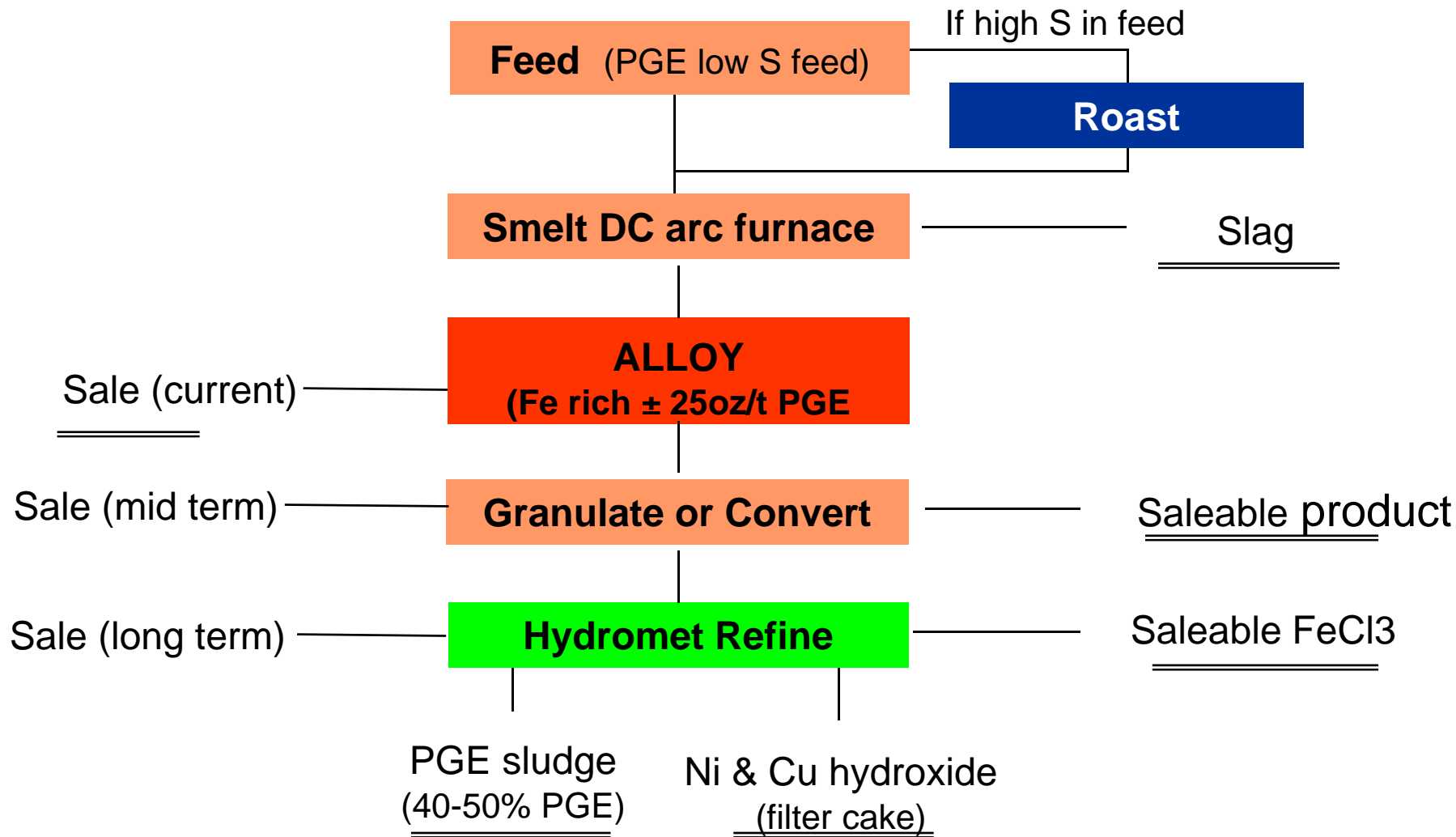
- Merensky reef (low chrome) depleting faster than UG2
- Increased mining of UG2 reef (high chrome) by majors and new producers
- Change from low to high chrome ore threat to current platinum smelting process viability
- Majors, juniors dependent on finding smelting partner to treat, refine their concentrate
- Majors imposing stringent chrome penalties on toll treating to protect their plants



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# ConRoast process flowsheet (simplified)



# ConRoast: unique selling points

Green	<ul style="list-style-type: none"> <li>• Solves SO<sub>2</sub> environmental problem &gt;98% S captured</li> </ul>
Safety	<ul style="list-style-type: none"> <li>• Avoids corrosive high-temperature matte phase</li> <li>• Tolerant high-temperature operation</li> </ul>
Energy efficient	<ul style="list-style-type: none"> <li>• Good temperature control/distribution</li> <li>• No short circuiting between coke and electrode</li> <li>• No electrode contact with melt</li> <li>• Stabilises power supply</li> </ul>
Metal recovery	<ul style="list-style-type: none"> <li>• &gt;98% PGE recovery to alloy</li> </ul>
<b>Flexibility</b>	<ul style="list-style-type: none"> <li>• <b>Solves UG2 smelting problem</b></li> <li>• <b>No limit on Cr<sub>2</sub>O<sub>3</sub> (chrome) content in feed</b></li> <li>• <b>Feed converter slags, mine fines, Merensky concentrate (with pre roast), revert tailings and dump tailings concentrates</b></li> </ul>







# Enlarged Company effects on Tjate Project

- **NO** toll treatment
- Ownership of metal
- Independent of majors
- Increase in metal payable to Tjate
- Major increase in project NPV



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# Effect of ConRoast and leach on Tjate scoping study economics

Key assumptions – Initial development (15% of total resources – Merensky only)		Effect of ConRoast and leach
ROM grade	5.0g/t (3PGE+Au); 0.22% Ni; 0.13% Cu	No change
Resource	47Mt from 600m to 1 100m	No change
Production	335 000oz per annum (3PGE+Au)	No change
Life of Mine	20 years (full production)	No change
Throughput	200 000 tpm	No change
Operating cost	R350/tonne ore	<b>R415/tonne ore</b>
Capital cost		<b>\$100 million ConRoast and leach plant</b>
Payability for PGEs	<b>82%</b>	<b>96% (proven recovery)</b>
Payability Base metal	<b>70%</b>	<b>96% (proven recovery)</b>
Chrome penalty	<b>Yes (if UG2 treated with MR)</b>	<b>No</b>
NPV @ 5% discount	<b>\$1.2 billion</b>	<b>\$1.7 billion</b>

# ConRoast agreement with Mintek

- Mintek holds patent on ConRoast process
- Sole and exclusive global licence option extended for life of patent (2020)
- Usage fee based on R/t smelted to increase during option period
- Requirement to operate 2 x 10MVA (8MW) furnace in 5 years

# NICKEL AUSTRALIA - Nickel resources

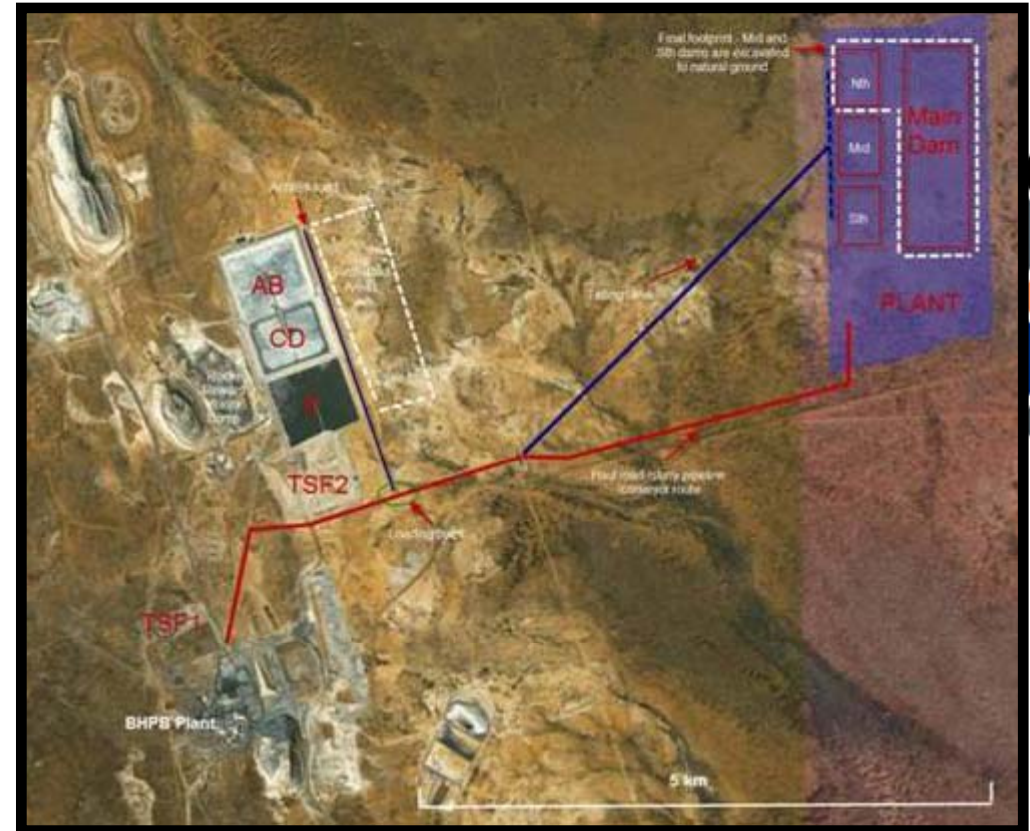
- Estimated total **485 000t** of nickel metal mined and milled in surface tailings based on historic mill records - AMC Consultants
- Additional **522 082t** of hot nickel tailings from ongoing operations
- In-situ contained nickel metal value > **US\$9 billion** (at US\$19 000/tonne)
- Currently reviewing resource value in cooperation with BHP Billiton

Deposit	Tonnes	Grade (%Ni)	Ni (Tonnes)
Leinster nickel sulphide tailings	29,610,000	<b>0.46</b>	135,000
<i>JORC Resource Estimate from CSA Australia Pty Ltd</i>			
Kambalda nickel sulphide tailings	32,640,757	<b>0.41</b>	132,452
<i>AMC Consultants Pty Ltd estimate based on historic mill records</i>			
Mt Keith nickel sulphide tailings	101,984,221	<b>0.21</b>	218,306
<i>AMC Consultants Pty Ltd estimate based on historic mill records</i>			

Many an optimist has become rich by buying out a pessimist

# Leinster nickel tailings

- Large nickel sulphide resources in Western Australia
- Near established infrastructure and services capex savings
- Off-take agreement with BHP Billiton (BHPB)
- Proven proprietary process technologies
  - leaching and acid recycling depending on process route





# Evolving nickel strategy

- Develop Kambalda
- Close proximity of Kambalda with Kalgoorlie Nickel Smelter (KNS) and Kalgoorlie
- Kambalda complements Leinster
- provides two separate stand-alone nickel production facilities
- Considerably lower capex required for Kambalda
- acid plant not required



From grave to ladle...



# The Investment Case

- Short-term cash flow from proven existing ConRoast process facility
- Mid-term cash flow from dump re-treatment  
Concentrating and Smelting
- Tjate to be developed
- Australian nickel evaluated - ready for development
- Mid-market capitalization target

**Major upside/revaluation as projects and new business opportunities emerge**

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# Management



<b>Board</b>	
Malcolm Burne	Non-executive Chairman
Dr. Mathews Phosa	Non-executive Deputy Chairman *
Colin Bird	Chief Executive Officer
Leon Coetzer	Executive Director *
Andrew Sarosi	Executive Director
Chris Molefe	Non-executive Director
<b>Management</b>	
Colin Bird	Chief Executive Officer
Leon Coetzer	Managing Director: Smelting and Refining *
Eduard Victor	Dump retreatment and Corporate
Andrew Sarosi	Technical Director

*\* To be appointed on takeover of Braemore becoming unconditional*