



Browns Range Rare Earths

Delivering critical technology metals to the world

6th Annual Cleantech & Technology Metals Summit May 2017



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Compliance Statement

The information in this presentation that relates to the Mineral Resource Estimates of the Wolverine deposit is extracted from the report entitled "Increased Mineral Resource delivers more good news" dated 23 February 2015 and is available to view on the Company's website (www.northernminerals.com.au). The Company confirms that it is not aware of any new information or data that materially affects the information included in the original market announcement and that all material assumptions and technical parameters underpinning the estimates in the relevant market announcement continue to apply and have not materially changed. The Company confirms that the form and context in which the Competent Person's findings are presented have not been materially modified from the original market announcement.

The information in the announcement that relates to the Mineral Resource Estimates of the Cyclops and Banshee deposits is extracted from the report entitled "Further Increase in Brown Range Mineral Resource" dated 15 October 2014 and is available to view on the Company's website (www.northernminerals.com.au). The Company confirms that it is not aware of any new information or data that materially affects the information included in the original market announcement and that all material assumptions and technical parameters underpinning the estimates in the relevant market announcement continue to apply and have not materially changed. The Company confirms that the form and context in which the Competent Person's findings are presented have not been materially modified from the original market announcement.

The information in the announcement that relates to the Mineral Resource Estimates of the Gambit, Gambit West and Area 5 deposits is extracted from the report entitled "Wolverine Total Resource Doubled in a Major Upgrade of Browns Range HRE Mineral Resource Estimate" dated 26 February 2014 and is available to view on the Company's website (www.northernminerals.com.au). The Company confirms that it is not aware of any new information or data that materially affects the information included in the original market announcement and that all material assumptions and technical parameters underprinting the estimates in the relevant market announcement continue to apply and have not materially changed. The Company confirms that the form and context in which the Competent Person's findings are presented have not been materially modified from the original market announcement.

The information in the announcement that relates to Ore Reserves is extracted from the report entitled Increased Ore Reserve for Browns Range created on 2 March 2015 and is available to view on the Company's website (northernminerals.com.au). The Company confirms that it is not aware of any new information or data that materially affects the information included in the original market announcement and that all material assumptions and technical parameters underpinning the estimates in the relevant market announcement continue to apply and have not materially changed. The Company confirms that the form and context in which the Competent Person's findings are presented have not be materially modified from the original market announcement.

The information in this report that relates to Exploration Results or Exploration Targets is based on information compiled by Mr Robin Wilson, a full-time employee of Northern Minerals, a Competent Person, who is a member of the Australasian Institute of Mining and Metallurgy. Robin Wilson has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2012 Edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves". Mr Wilson consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

The potential quantity and grade of the Exploration Target is conceptual in nature. There has been insufficient exploration completed in the areas of the Exploration Target and it is uncertain if further exploration will result in the estimation of a Mineral Resource.

The information in the announcement that relates to production targets is extracted from the report entitled "DFS positions Browns Range Project as next dysprosium supplier" dated 2 March 2015 and is available to view on the Company's website (northernminerals.com.au). The Company confirms that it is not aware of any new information or data that materially affects the information included in the original market announcement and that all material assumptions and technical parameters underpinning the production targets in the relevant market announcement continue to apply and have not materially changed.

TREO = Total Rare Earth Oxides - La₂O₃, CeO₂, Pr₆O₁, Nd₂O₃, Sm₂O₃, Eu₂O₃, Gd₂O₃, Tb₄O₇, Dy₂O₃, Ho₂O₃, Er₂O₃, Tm₂O₃, Yb₂O₃, Lu₂O₃, Y₂O₃

 $HREO = Heavy\ Rare\ Earth\ Oxides\ -\ Total\ of\ Sm_2O_3,\ Eu_2O_3,\ Gd_2O_3,\ Tb_4O_7,\ Dy_2O_3,\ Ho_2O_3,\ Fr_2O_3,\ Tm_2O_3,\ Tb_2O_3,\ Lu_2O_3,\ Yb_2O_3,\ Lu_2O_3,\ Tb_4O_7,\ Dy_2O_3,\ Tm_2O_3,\ Tm_2O$

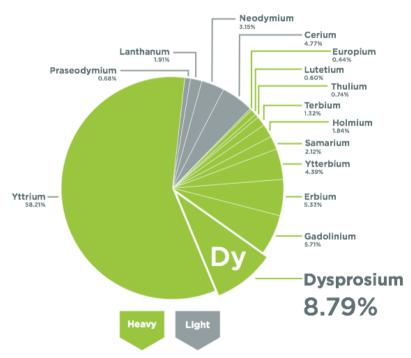


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Northern Minerals Browns Range

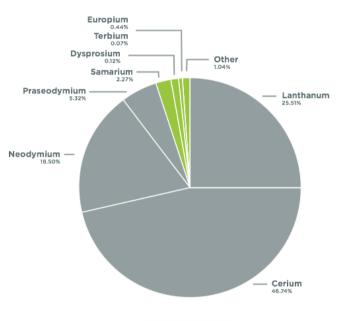
Rare earth distribution 1



¹Based on Wolverine Mineral Resource

Lynas Mt Weld

Rare earth oxide composition ²





² Source: Lynas Corporation website

Browns Range Underway





Browns Range Accommodation Camp



Powering Technology. Wolverine - topsoil cleared



Browns Range Airstrip - topsoil cleared



Gambit West - topsoil cleared and grade control drilling commenced

Permanent magnets explained



- NdDyFeB permanent magnets are used by major electric vehicle and wind turbine makers
- Dysprosium enhances magnetic properties at higher temperatures
- Permanent magnets account for 25% of rare earth demand in tonnes and 80% in value
- As a result of climate change policies, higher electric car and wind turbine take up increases permanent magnet market demand
- Electric vehicle sales expected to grow from 1.2 million in 2015 to >20 million by 2020
- Alternatives to rare earth magnets have been explored, however timeframe for commercialisation >10 years





Chinese carmakers to dominate EV production









































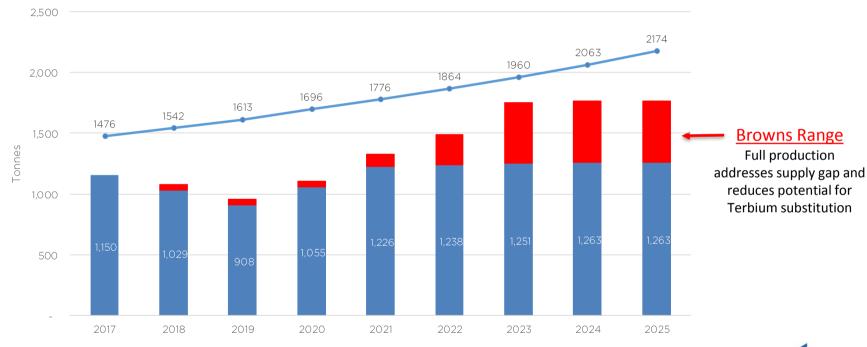








Dy Supply and Demand Dynamics









Dysprosium - Sustainable Pricing







positioned for success



Project Location





Three stage approach to full scale production

Stage 1

TEST PILOT PLANT

Stage 2

REFINE PROJECT

Stage 3

BUILD FULL SCALE

- 10% of full scale capacity
- Production 14 months from Final Investment Decision
- Low capital cost
- Develop mining, processing & offtale experience

- Reduce mining cost modify mining method
- Boost production increase head grade
- Develop premium product
 vttrium rejection
- Increase reserve drilling

- 585,000tpa operation
- 1,500,000kg TREO in a premium product
- Significant dysprosium supplier
- Initial 11 year life with significant upside

measured . sustainable . achievable









Financing



Sales Agreement

Processing Plant

Open Pit Mining

Office & Camp

Tailings Dam

Schedule

Feasibility

- \$56 million funding for Pilot Plant Development:
 - \$29.5 million through placements
 - \$32 million via R&D Financing Facility
 - \$10 million via Sales Agreement pre-payment
 - \$11 million via Sinosteel deferred payment*

* Sinosteel MECC has agreed to defer 20% of its contract amount for 24 months, with the ability to convert into Northern Minerals' shares



Sales Agreements Secured



Financing



Processing Plant

Open Pit Mining

Office & Camp

Tailings Dam

Schedule

Feasibility

- 100% of Browns Range Pilot Plant production to be purchased by a subsidiary of Guangdong Rising Asset Management Limited.
- Agreement with Lianyugang Zeyu New Materials Sales Co Ltd (JFMAG), a 51% owned subsidiary of Guangdong Rare Earths Group.
- The Sales Agreement terms are based off CIF Incoterms 2010 with pricing referenced from a 2-month average of quoted prices on Asian Metals and Beijing Ruidow Information Technology.
- Sales Agreement includes A\$10 million pre-payment, receivable in early 2018 and 40 million unlisted options at \$0.25 exercise price.
- Upon receipt of funds, sales partner representative to join Northern Minerals' Board.



Quality Sales Partner

Financing



Processing Plant

Open Pit Mining

Office & Camp

Tailings Dam

Schedule

Feasibility



Direct shipping route from Wyndham or Darwin to Lianyungang, China





Pilot Plant Processing Plant

Financing

Sales Agreement



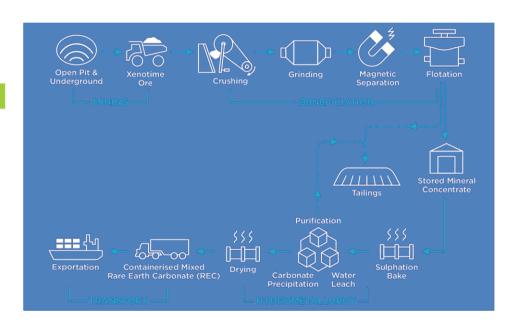
Open Pit Mining

Office & Camp

Tailings Dam

Schedule

Feasibility



Project Component:

Modular processing plant

Contractor:

Sinosteel MECC

Annual Production:

60,000tpa (based on 10 operating months per year)

Capital Cost:

A\$39 million

Status:

Under construction in China





Open Pit Mining

Financing

Sales Agreement

Processing Plant

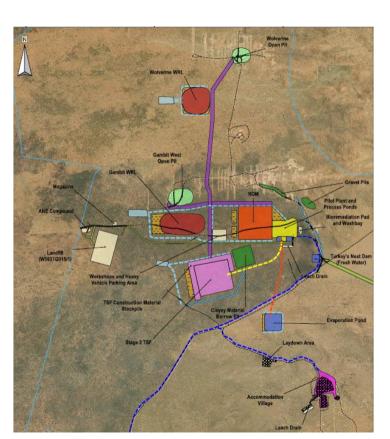
Open Pit Mining

Office & Camp

Tailings Dam

Schedule

Feasibility



Project Component:

Open Pit Mining

Contractor:

MACA Limited

Scale:

180,000t ore mined

Total Cost:

A\$6 million

Status:

Fleet mobilising June 2017
Entire mining project to be completed in November 2017

Powering Technology.

Office and Camp Infrastructure

Financing

Sales Agreement

Processing Plant

Open Pit Mining

Office & Camp

Tailings Dam

Schedule

Feasibility



Project Component:

Associated infrastructure

Contractor:

ATCO

Details:

Camp increased from 21 to 49 personnel New office and workshop facilities

Capital Cost:

A\$1 million

Status:

Units arrived on site in May 2017 Assembly commenced

Tailings Dam Construction

Financing

Sales Agreement

Processing Plant

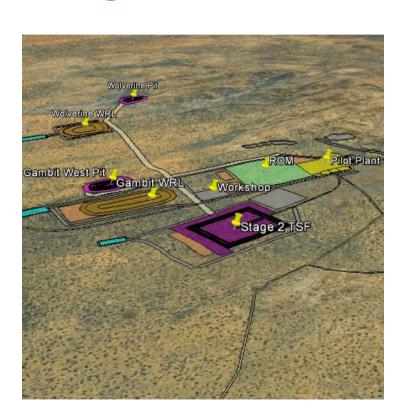
Open Pit Mining

Office & Camp

Tailings Dam

Schedule

Feasibility



Project Component:

Tailings Storage Facility construction

Contractor:

MACA Limited

Details:

Construction of tailings storage facility

Capital Cost:

A\$1.2 million

Status:

To be constructed using waste material from open pit mining

Schedule

Financing

Sales Agreement

Processing Plant

Open Pit Mining

Office & Camp

Tailings Dam

	2017								2018						
	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
Final Investment Decision	1														
Mining & Bulk Earthworks															
Design & Fabrication		1													
Installation															
Research & Development															



Feasibility





Feasibility

Financing

Sales Agreement

Processing Plant

Open Pit Mining

Office & Camp

Tailings Dam

Schedule

Feasibility

- The three-year pilot project has been designed to assess the technical and economic feasibility of the proposed full-scale development.
- Key aspects of assessment during the Pilot Plant phase:
 - Mining and ore variability;
 - Flowsheet and recovery optimisation;
 - Water and environmental considerations;
 - Transport and shipping logistics;
 - End user product specifications; and
 - Long term dysprosium market dynamics.
- These determining factors will be incorporated into an updated feasibility study for the proposed full-scale operation.

Key Personnel and Partners







Key Site Personnel: Chris Lee - Resident Manager Eben Van Rooyen - Project Manager









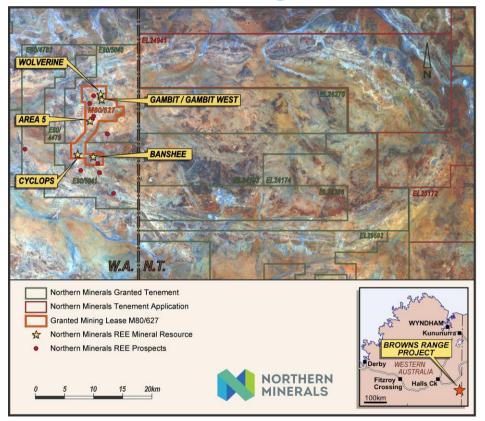








Browns Range Dome: under explored



The dome is a massive geological feature covering 1,500km² and stretching

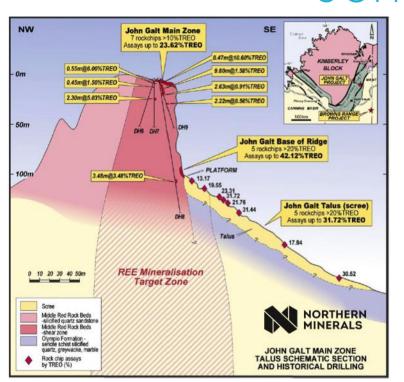
60km x 30km

most of which hasn't been effectively explored



Beyond Browns Range: John Galt



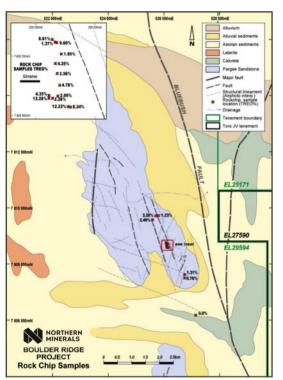


- Rock chip samples up to 42% TREO with approximately 95% Heavy REO
- Preliminary metallurgical tests indicate excellent recovery rates (>90%) with potential for concentrate grades >40%
- High grade mineralisation in talus (scree) material - hard-rock source of scree is the primary target



Beyond Browns Range: Boulder Ridge





- Rock chip samples from the Boulder Ridge project confirm high-grade Heavy Rare Earths (HRE)
- Best results exceed 12% TREO, including up to 1.15% Dysprosium, with a dominance of HRE - up to 99%.
- Reinforces significant growth potential in Browns Range and Tanami regions.





2017 to date....

- Raised \$19.5m at 91% premium
- \$10m placement at 13.5 cents
- \$11m Sinosteel MECC deferred payments
- \$10m JFMAG sales agreement prepayment
- Design completed
- Approved by Board
- Mining and bulk earthworks contract signed



Corporate Overview



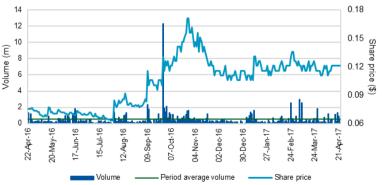
Major shareholders	28 April 2017
Australian Conglin International Investment Group	28.8%
Huatai Mining	22.1%
Jien Mining	3.9%
Board & Management	2.6%
Remaining Top 20	17.5%
Other	25.1%

Market capitalisation \$86M

(at 24 April 2017 @ \$0.125)

Ordinary Shares	689M
Options and Performance Rights	48.2M
Cash (24 April 2017)	\$14.5M
Debt (24 April 2017)	nil

Price and volume







Northern Minerals: Building an Australian greenfields discovery

Appendices





Dysprosium is a critical technology metal



- ➤ Rare Earths
 - **>** Dysprosium
 - > Terbium
- Neodymium
 - Praseodymium

- >Lithium
- **>** Graphite
- >Cobalt
- **≻**Nickel



Mineral Resources

Deposit	Category	Mt	TREO	Dy ₂ O ₃	Y_2O_3	Tb₄O ₇	HREO	TREO	
			%	Kg/t	Kg/t	Kg/t	%	Kg	
Wolverine	Indicated	2.99	0.83	0.73	4.86	O.11	89	24,952,000	
	Inferred	1.97	0.89	0.76	5.13	0.11	88	17,609,000	
	Total ¹	4.97	0.86	0.74	4.97	O.11	89	42,560,000	
Gambit West	Indicated	0.27	1.26	1.07	7.06	0.14	90	3,424,000	
	Inferred	0.12	0.64	0.54	3.67	0.07	85	753,000	
	Total ¹	0.39	1.07	0.91	6.04	0.12	89	4,177,000	
Gambit	Indicated	0.05	1.06	0.92	6.62	0.12	97	533,000	
	Inferred	0.06	1.2	1.01	6.8	0.15	95	671,000	
	Total ¹	O.11	1.13	0.97	6.72	0.13	96	1,204,000	
Area 5	Indicated	1.38	0.29	0.18	1.27	0.03	69	3,953,000	
	Inferred	0.14	0.27	0.17	1.17	0.03	70	394,000	
	Total ¹	1.52	0.29	0.18	1.26	0.03	69	4,347,000	
Cyclops	Indicated	-	100	-	-	-	-	-	
	Inferred	0.33	0.27	0.18	1.24	0.03	70	891,000	
	Total ¹	0.33	0.27	0.18	1.24	0.03	70	891,000	
Banshee	Indicated	-	-	-	28	-	100	-	
	Inferred	1.66	0.21	0.16	1.17	0.02	87	3,484,000	
	Total ¹	1.66	0.21	0.16	1.17	0.02	87	3,484,000	
Total ¹	Indicated	4.69	0.70	0.59	3.95	0.09	87	32,862,000	
	Inferred	4.28	0.56	0.46	3.15	0.07	87	23,802,000	
	Total ¹	8.98	0.63	0.53	3.56	0.08	87	56,663,000	





Ore Reserves

			TREO		Dy ₂ O ₃		Tb₄O ₇		Y_2O_3	
Deposit	Classification	Ore Tonnes	kg/t	kg Contained	kg/t	kg Contained	kg/t	kg Contained	kg/t	kg Contained
OPEN PIT										
Wolverine	Probable	833,000	6.15	5,124,000	0.55	460,000	0.08	66,000	3.59	2,989,000
Gambit West	Probable	219,000	10.10	2,212,000	0.83	182,000	O.11	25,000	5.52	1,209,000
Gambit	Probable	37,000	8.05	298,000	0.68	25,000	0.09	3,000	4.74	176,000
Area 5	Probable	467,000	2.24	1,048,000	0.14	65,000	0.02	10,000	0.99	463,000
UNDERGROUN	D									
Wolverine	Probable	2,104,000	8.00	16,833,000	0.70	1,483,000	0.10	221,000	4.71	9,908,000
Gambit West	Probable	90,000	9.54	860,000	0.88	79,000	O.11	10,000	5.78	521,000
RESERVE										
Total	Probable ¹	3,750,000	7.03	26,375,000	0.61	2,294,000	0.09	335,000	4.07	15,266,000

¹ Rounding may cause some computational discrepancies



Pilot plant: targeted production

- Mixed RE carbonate (REC) produced
- Product specification available for REC
- REC samples validated by several downstream separators
- REC suitable for solvent extraction separation
- Low thorium and uranium levels

REO contained in mixed RE carbonate	Annual production (000s kgs)
Lanthanum	5.8
Cerium	15.2
Praseodymium	2.8
Neodymium	10.6
Samarium	11.4
Europium	2.4
Gadolinium	34.8
Terbium	6.7
Dysprosium	49.4
Holmium	13.5
Erbium	39.3
Thulium	5.6
Ytterbium	33.1
Lutetium	4.5
Yttrium	337.6
Total TREO	573

Figures may not add due to rounding TREO = Total Rare Earth Oxides- Total of $\mathrm{Dy}_2\mathrm{O}_3$, $\mathrm{La}_2\mathrm{O}_3$, CeO_2 , $\mathrm{Pr}_6\mathrm{O}_1$, $\mathrm{Nd}_2\mathrm{O}_3$, $\mathrm{Sm}_2\mathrm{O}_3$, $\mathrm{Eu}_2\mathrm{O}_3$, $\mathrm{Gd}_2\mathrm{O}_3$, $\mathrm{Tb}_4\mathrm{O}_7$, $\mathrm{Ho}_2\mathrm{O}_3$, $\mathrm{Er}_2\mathrm{O}_3$, $\mathrm{Tm}_2\mathrm{O}_3$, $\mathrm{Td}_2\mathrm{O}_3$, $\mathrm{Lu}_2\mathrm{O}_3$, $\mathrm{Yp}_2\mathrm{O}_3$, $\mathrm{Lu}_2\mathrm{O}_3$, $\mathrm{Yp}_2\mathrm{O}_3$

NTU Board





Colin McCavana - Non-executive Chairman

Mr McCavana has more than 35 years of management experience worldwide in the earthworks, construction and mining industries.

George Bauk - Managing Director / CEO

George is an experienced executive, with 25 years' experience in the resources industry. Prior to Northern Minerals, George held global operational and corporate roles with WMC Resources, Arafura Resources and Western Metals.

Adrian Griffin - Non-executive Director

An Australian trained mining professional with exposure to metal mining and processing throughout the world, Mr Griffin has been involved in the development of extraction technology for platinum group metals and agricultural commodities.

Nan Yang - Non-executive Director

Mr Yang is an Australian mining engineer with more than 10 years' experience in mine planning, design, and mergers and acquisitions.

Yanchung Wang - Non-executive Director (not in photo)

Ms Wang acts as a strategic investor for a number of Chinese based companies. Ms Wang is Vice Chairman of Conglin Baoyuan International Investment Group and also a Director of Huachen. Mr Bin Cai (pictured) is an alternative director for Ms Wang.



Executive Team



George Bauk
Managing Director / CEO
George is an experienced
executive, with 25 years'
experience in the resources
industry. Prior to Northern
Minerals, George held global
operational and corporate
roles with WMC Resources,
Arafura Resources and
Western Metals.



Mark Tory
Chief Financial Officer
Mark is a Chartered
Accountant with 25 years of professional experience in the mining industry and accounting professions. Prior to Northern Minerals, Mark held senior positions at Crescent Gold Limited, Anglo American Exploration and Homestake Gold (now Barrick Gold).



Robin Jones Chief Operating Officer Robin has more than 20 years experience in the mining industry, the majority of which has been in the assessment and development of resource projects from scoping study level through to operation. Robin has held senior management positions in PGM, nickel, copper, gold and uranium projects in Australia, South Africa and China.



Robin Wilson
Exploration Manager
Robin has held senior
exploration positions in
several exploration and
mining companies, including
Polaris Metals, Tanganyika
Gold, Troy Resources and
CRA Exploration. In addition,
he spent 5 years working in
oil and gas exploration for
Woodside Energy.



Bin Cai
Executive Officer
Bin is the MD of Conglin
International Investment
Group Pty Ltd based in
Brisbane. He has a record of
successful strategic
investments in emerging
Australian resources
companies based on his long
experience in resources
investment.

The Northern Minerals SPIRIT



