



Clean energy. Clear future.

# Shaw and Partners Uranium Conference Ian Purdy – Chief Executive Officer

FEBRUARY 2020

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The information in this presentation relating to the Mineral Resources and Ore Reserves for all of the Company's deposits other than Langer Heinrich, Michelin, Jacques Lake and Manyingee was prepared and first disclosed under the JORC Code 2004. It has not been updated since to comply with the JORC Code 2012 on the basis that this information has not materially changed since it was last reported. Refer to the Mineral Resource Table slides in the Appendix of this presentation.

#### **Competent Persons Statement**

The information contained within this presentation is extracted from the report titled "Noosa Mining Conference Presentation" released on 13 November 2020 which is available to view on paladinenergy.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 announcement and, in the case of Mineral Resources or Ore Reserves, 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 materially modified from the original market announcement.

# World class uranium producer with a defined restart plan





Proven 10-year track record of uranium production from Langer Heinrich with 43Mlb of U<sub>3</sub>O<sub>8</sub> shipped to customers



Fully permitted to resume mining, processing and uranium exports



Long-life operation with competitive economics underpinned by Comprehensive Mine Restart Plan<sup>1</sup>



Significant high-grade global exploration portfolio provides optionality beyond Langer Heinrich



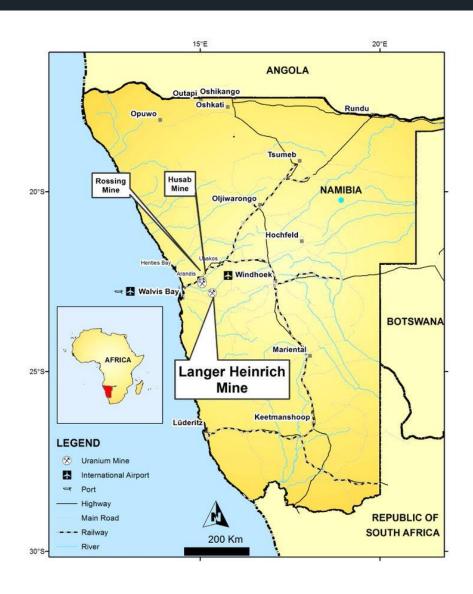
Strong financial position with approximately US\$31.8M2 in cash reserves and a FY2021 expenditure forecast of US\$9.5M



Actively engaging with historic and potential new customers in an improving global uranium market

## Namibia – a premier Uranium jurisdiction







Globally significant uranium province (Husab, Rossing and Langer Heinrich) when at full capacity supplies ~12% of the world's uranium



Uranium has been continually produced in Namibia since 1976 under a stable mining and uranium regulation regime



Mining contributes ~25% to the country's GDP



Excellent local infrastructure (port, road, rail, water & power) with proximity to the Walvis Bay industrial hub



Strong community and government support for the uranium industry

# Langer Heinrich's proven production track record





Paladin own 75% of Langer Heinrich with 25% owned by CNNC Overseas Uranium Holdings Limited<sup>1</sup>



First production from Langer Heinrich in 2007 with peak production of 5.6Mlbs in 2014 before operations suspended due to low uranium prices in 2018



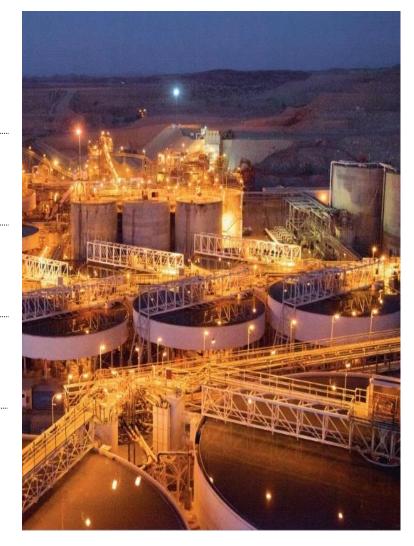
Extensive care and maintenance investment program (~US\$11M since 2018) has kept the mine, plant and associated infrastructure in good standing



Mine Restart Plan announced in June 2020 sets the path to bring Langer Heinrich back into production with targeted investment to maximise plant reliability & runtime



Proven historical operational performance, comprehensive Mine Restart Plan and significant cash runway provides Paladin the flexibility to respond rapidly to improved market conditions



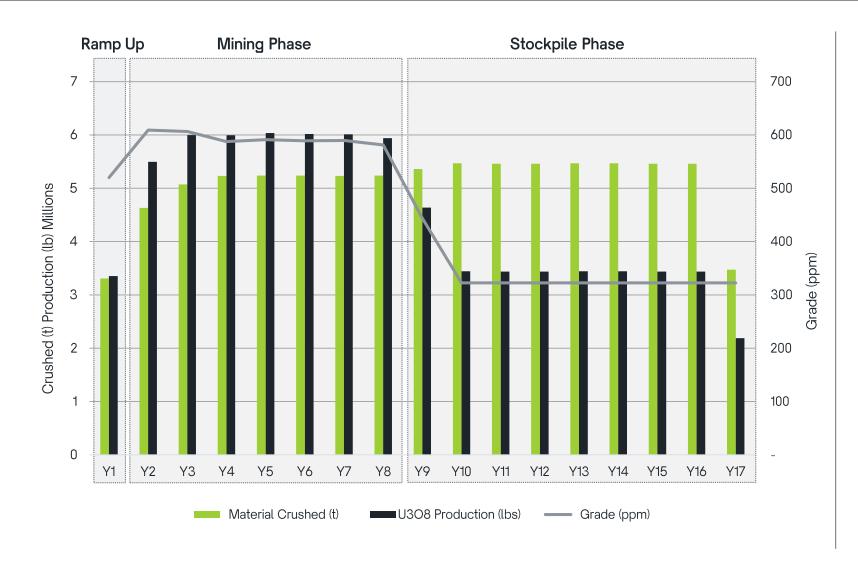
## Mine Restart Plan confirms economic significance of Langer Heinrich<sup>1,2</sup>





## The ability to rapidly return to full production rate





#### **US\$81M of Pre-Production Capex**

- Operational Readiness (US\$34M): Working capital and other cash expenditure to restart baseline operations
- Discretionary capital (US\$47M): Targeted investment to maximise plant reliability and runtime

#### Competitive cost position

- Life of mine production cash cost of US\$27/lb
- Freight and logistics of US\$0.95/lb
- Sustaining capex US\$2.90/lb
- Government royalties are set at 3% of US\$ sales

### Continuing to optimise and de-risk the Mine Restart Plan





The Company continues to advance the critical-path elements of the Langer Heinrich Mine Restart Plan<sup>1</sup>, including:

- Optimisation of pit shells and improved pit design
- Updating the Mineral Resource model
- Engagement with mining contractor on future improvements
- Progressing various discipline reports (civil, structural, tanks, electrical, instruments, piping and valves) on plant and equipment condition assessment, ready for prioritisation and detailed costing
- Completing reports on plant runtime and capacity, at target grades and crushed ore volumes
- Engagement of original equipment manufacturers to provide technical support for targeted process and equipment improvements.



## A quality global suite of exploration assets





Globally significant high grade exploration portfolio



Low holding costs across the portfolio with long duration exploration licenses



Extensive historical exploration activity has seen over US\$140m spent on the portfolio



Diverse portfolio of assets provides optionality on mining methods;

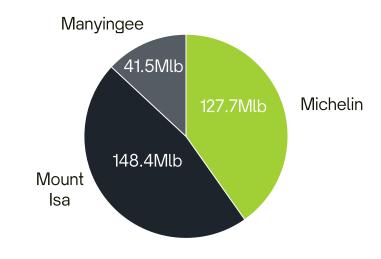


The portfolio provides future upside optionality post the commencement of mining activities at Langer Heinrich



Paladin will continue to pursue a disciplined approach to exploration activity and maintain a tight control on exploration budgets

# Global Exploration Project Mineral Resources<sup>1</sup> 203Mt at 710ppm U<sub>3</sub>O<sub>8</sub> for 317.6Mlb



## Diverse exploration portfolio delivers future optionality



#### Michelin<sup>1</sup> (Canada - 60% interest)

- Mineral Resource (M+I+I): 127.7Mlb at 860 ppm
- US\$75M of total historical in ground exploration
- Potential for ~6Mlbpa open cut and underground mine

#### Mount Isa<sup>1</sup> (Australia – 100% interest)

- Mineral Resource (M+I+I): 148.4Mlb at 680 ppm
- US\$55M of historical in ground exploration
- Potential for 5-7Mlbpa open cut mine

#### Manyingee<sup>1</sup> & Carley Bore (Australia – 100% interest)

- Mineral Resource (M+I+I): 41.5Mlb resource at 510 ppm
- Over US\$17M of exploration and testing
- Potential for 1-2Mlbpa ISR mine



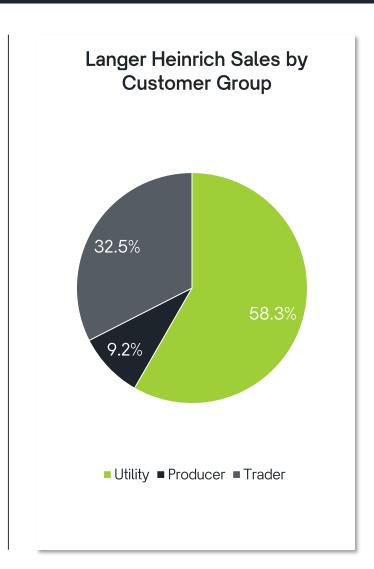


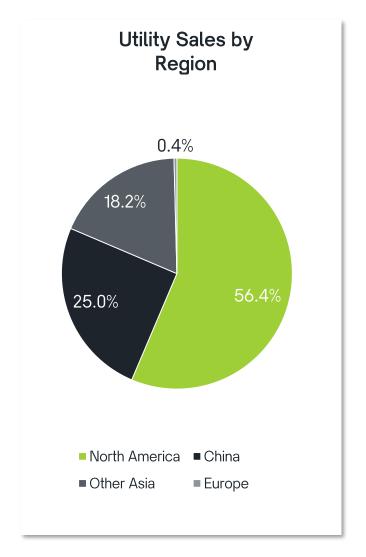
Why Uranium?

## Langer Heinrich's proven uranium product



- 43Mlb U<sub>3</sub>O<sub>8</sub> successfully marketed over 10 years
- Delivered product aligned to feedstock specifications of global UF<sub>6</sub> conversion facilities operated by Cameco, Honeywell, Orano and CNNC
- Langer Heinrich never missed a shipment or had a shipment rejected
- Product packaging upgrade will enable UO<sub>4</sub> or U<sub>3</sub>O<sub>8</sub> production upon restart
- Langer Heinrich has a Life Of Mine offtake with CNNC for up to 25% of annual production at approximately the prevailing spot price
- The CNNC offtake is complimentary to the Company's plan to secure term offtake contracts with other customers

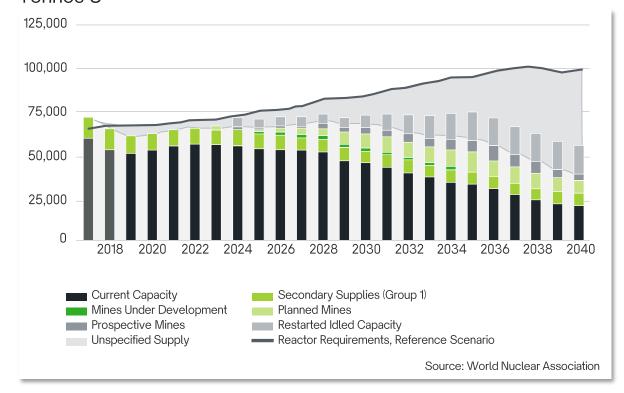




## Structural supply deficit with growing demand



# World Nuclear Association - Supply Shortage Tonnes U



- Current primary uranium supply unable to meet current demand
- Projected deficit requiring the restart of idled production capacity
- ERA and Cominak uranium operations to close in 2021

#### **World Nuclear Generation Facts**



10% of global electricity generation<sup>1</sup>



20% of United States Electricity Generation<sup>1</sup>



2nd largest source of global clean energy with almost Zero Carbon emissions<sup>1</sup>



441 reactors in operation across 33 countries<sup>2</sup>



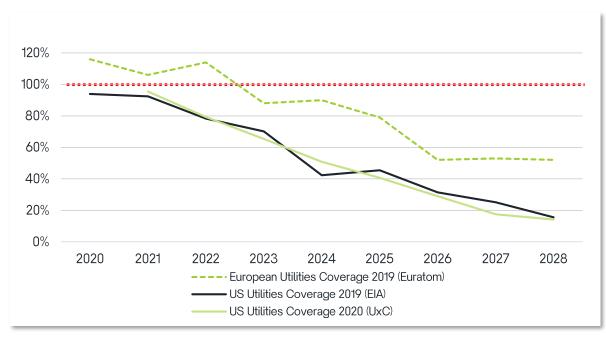
52 reactors under construction in 19 countries<sup>2</sup>

<sup>&</sup>lt;sup>1</sup> IEA.org. <sup>2</sup> World Nuclear Association "World Nuclear Power Reactors & Uranium Requirement" November 2020.

# Falling utility coverage rates will drive term contract activity

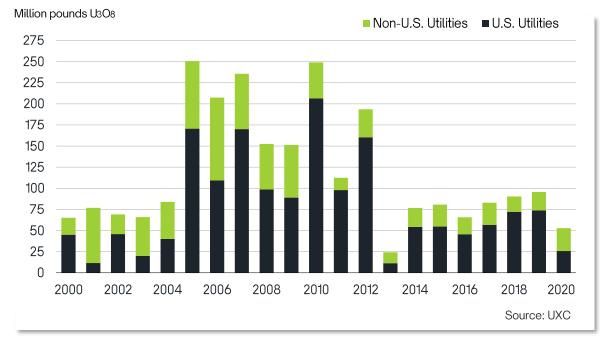


# Future Contracted Coverage Rates of US & European Utilities Contract coverage (% of total requirements)



- US contract coverage reaching critical lows with minimal change in contract coverage since 2018
- US contract coverage to fall below 50% within the next 3 years
- Global uncovered demand to exceed 100Mlb per annum by 2028

# **Historic Term Contract Activity** Mlb pa



- Utilities are overdue to return to the term contracting market with recent contracting activity well below annual consumption levels
- Current market dynamics conducive to increased term market contracting activity in 2021



Paladin Investment Conclusion

#### What does it mean for Paladin?



# 1

# Strong operational track record

- Proven track record with 10 years of production
- 43Mlb of U<sub>3</sub>O<sub>8</sub> successfully marketed product
- Langer Heinrich extensive Care & Maintenance ensures operational readiness
- Mine Restart Plan pathway maximises operational runtime

# Langer Heinrich is competitively positioned to take advantage of improving uranium market

- Industry competitive capital and operating costs
- All permits in place to resume production and exports
- Significantly faster production delivery and lower incentive price than green-fields projects
- Securing appropriate term contracts is key to the Langer Heinrich Mine restart

# 3

# Significant high-grade exploration portfolio

- High grade exploration portfolio
- Over US\$140m of historical exploration spend
- Exploration provides optionality upside
- Paladin maintains a disciplined approach to exploration activity & budget

# Strong financial position

- Significant runway to execute strategy with US\$31.8M¹ in cash
- Reduced cash burn rate across the Company
- Disciplined and patient approach
- Flexibility to respond to market conditions

4



Appendix

#### Our ESG commitment



Paladin is committed to the core principle of delivering value through sustainable development. Our Paladin Values support every decision we take. With these strong foundations, we can focus on achieving economic, social and environmental sustainability in balanced and successful ways for all stakeholders.

lost time injuries in 2020



# Health, Safety Wellbeing

We put the health, safety and wellbeing of our workforce and all stakeholders at the forefront, with a positive culture of safety that underpins all our decisions and actions.



# People & Opportunity

We value and respect all our people as central to what we do, embracing diversity and promoting equal opportunities to thrive and be recognised



# Community & Social Investment

We engage positively with local communities, actively listening and contributing to their social prosperity and development with integrity



# **Environmental** Stewardship

We protect the environment and work to minimise our impacts on it, achieving continuous improvements in sustainability practices and committing to support emission reductions to achieve the goals of the Paris Agreement on climate change

100%

LH employees are Namibian

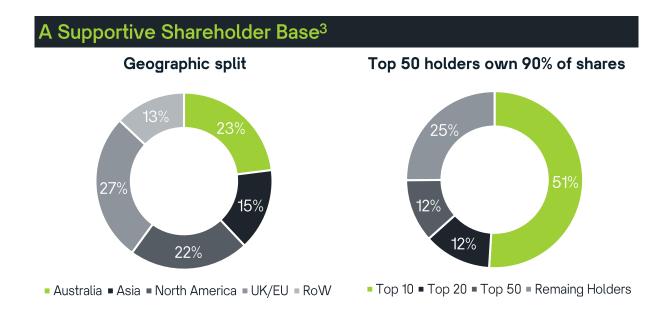
28% of workforce are female

reportable environmental events

## Paladin Corporate snapshot



Market Snapshot ASX: PDN	
Shares on issue <sup>1</sup>	2.057B
Share price <sup>1</sup> A\$	0.33c
Market capitalisation <sup>1</sup> A\$	654M
Market capitalisation <sup>1, 2</sup> US\$	504M
Unrestricted Cash <sup>3</sup> US\$	31.8M
Debt <sup>3</sup> US\$	153.0M



Major Shareholders <sup>4</sup>	
Tembo Capital Management	13.05%
Paradice Investment Managers	9.52%
Hopu Clean Energy	5.94%

Specialist Uranium Funds	
Sachem Cove Partners <sup>4</sup>	4.89%
Segra Capital Management <sup>3</sup>	3.87%
Global X Uranium ETF <sup>5</sup>	1.58%

<sup>&</sup>lt;sup>1</sup> As at 25 January 2021 <sup>2</sup> A\$/US\$ exchange rate 0.77. <sup>3</sup> As at 31 December 2020 <sup>4</sup> As per most recently lodged Form 604 (ASX:PDN) 5 As at 22 January 2021

#### Meet the Board and CEO











Cliff Lawrenson
Non-Executive Chairman

Mining executive with deep expertise in the minerals and energy sectors derived from global experience having worked extensively in project development and investment banking. A successful track record of leading strategic direction in companies and executing corporate transactions.

Peter Main
Non-Executive Director

Mining and finance professional with extensive experience of the financial markets with a wealth of industry experience, having spent almost 15 years in a variety of roles in the mining industry from operations through to CEO of a TSX-V listed mining company.

Peter Watson
Non-Executive Director

Chemical engineer with extensive experience in the global resources sector across senior technical, project, and management roles as well as running ASX-listed companies. His experience includes project development, project delivery, asset optimization and mining facilities operations across multiple commodities and global jurisdictions.

lan Purdy
Chief Executive Officer

Highly-respected executive with over three decades' experience within Australian and international resources companies. Ian has delivered significant shareholder value through managing and optimizing operations, delivering large projects and executing on business improvements and asset sales. Ian also has extensive capital markets experience and a proven track record of delivering company funding requirements.

#### The Executive Team











Anna Sudlow
Chief Financial Officer

Corporate finance professional with 25 years' of experience across the energy and resources sectors in senior management roles. Her experience includes funding execution, commercial management, accounting, finance and treasury in both the ASX listed and private sectors, and includes experience in international jurisdictions.

Jonathon Clements
General Manager
Projects and Development

Mining and mineral processing industry professional with over 30 years' of experience in the resource industry. His extensive experience and qualifications include the management of large sustaining capital portfolio's, feasibility studies, maintenance and global projects from concept to construction for ASX listed companies.

Johan Roux General Manager Langer Heinrich

Legal professional with over 30 years' experience in the management of corporate labour, mining, commercial, human resources and legal compliance laws in Namibia and South Africa, largely in the Mining and Oil & Gas sectors. Prior to joining Langer Heinrich, he was a partner of a legal firm in Namibia.

Gary Stoker
Principal Uranium
Marketing Consultant

Uranium marketing professional with over 30 years' experience in the nuclear fuels industry, working with Paladin in various capacities since 2008. Previously, co-founded a uranium asset management company with prime responsibility for the management of nuclear fuels trading portfolios. Has worked as an investment advisor to a uranium fund.

# Langer Heinrich Mine historical performance parameters



		FY2013	FY2014	FY2015	FY2016	FY2017	FY2018
Mining Rate (in-situ)	Mt	27.8	21.6	20.2	24.6	7.6	0.0
Mill Throughput	Mt	3.44	3.72	3.40	3.57	3.52	2.95
Mill Feed Grade	ppm	812	783	768	699	610	475
Recovery	%	86.0%	87.0%	87.6%	86.3%	87.7%	88.5%
U <sub>3</sub> O <sub>8</sub> Production	Mlb	5.3	5.6	5.0	4.8	4.2	2.7
C1 Cost of Production	US\$/lb	30.0	27.7	29.0	25.9	18.9	26.2

#### **Notes:**

- 1. Stage Three Expansion Project completed in 2013 generating 5Mlb pa  $U_3O_8$  production capacity
- 2. Mining suspended November 2016
- 3. Production suspended May 2018

# Mineral Resources Table – Langer Heinrich



		Measured		Indicated		Inferred		Total					
Uranium Mineral Resources <sup>1</sup> 250ppm U <sub>3</sub> O <sub>8</sub> cutoff	Mt	Grade ppm U <sub>3</sub> O <sub>8</sub>	Mlb U <sub>3</sub> O <sub>8</sub> (100% basis)	Mt	Grade ppm U <sub>3</sub> O <sub>8</sub>	Mlb U <sub>3</sub> O <sub>8</sub> (100% basis)	Mt	Grade ppm U <sub>3</sub> O <sub>8</sub>	Mlb U <sub>3</sub> O <sub>8</sub> (100% basis)	Mt	Grade ppm U <sub>3</sub> O <sub>8</sub>	Mlb U <sub>3</sub> O <sub>8</sub> (100% basis)	Paladin Ownership (%)
Langer Heinrich													
In-situ	66.2	490	71.9	18.8	435	18.0	6.3	420	5.8	91.3	475	95.7	75
MG <sup>2</sup> ROM Stockpiles	4.7	520	5.4	-	-	-	-	-	-	4.7	520	5.4	75
LG <sup>3</sup> ROM Stockpiles	26.1	325	18.7	-	-	-	-	-	-	26.1	325	18.7	75
Total	97.0	445	95.9	18.8	435	18.0	6.3	420	5.8	122.1	445	119.7	75

	Measured Indi		Indicated	Indicated Inferred			Total						
Vanadium Mineral Resources <sup>1</sup> 250ppm U <sub>3</sub> O <sub>8</sub> cutoff	Mt	Grade ppm V₂O₅	Mlb V <sub>2</sub> O <sub>5</sub> (100% basis)	Mt	Grade ppm V <sub>2</sub> O <sub>5</sub>	Mlb V <sub>2</sub> O <sub>5</sub> (100% basis)	Mt	Grade ppm V <sub>2</sub> O <sub>5</sub>	Mlb V <sub>2</sub> O <sub>5</sub> (100% basis)	Mt	Grade ppm V <sub>2</sub> O <sub>5</sub>	Mlb V <sub>2</sub> O <sub>5</sub> (100% basis)	Paladin Ownership (%)
Langer Heinrich													
In-situ	66.2	160	23.3	18.8	140	5.8	6.3	135	1.9	91.3	155	31	75
MG <sup>2</sup> ROM Stockpiles	4.7	170	1.8	-	-	-	-	-	-	4.7	170	1.8	75
LG <sup>3</sup> ROM Stockpiles	26.1	105	6.0	-	-	-	-	-	-	26.1	105	6.0	75
Total	97.0	145	31.1	18.8	140	5.8	6.3	135	1.9	122.1	145	38.8	75

Note: Values may not add due to rounding

1. Refer ASX announcement 'Langer Heinrich Mine Restart Plan' released on 30 June 2020, JORC (2012) compliant 2. 'MG' refers to medium grade. 3. 'LG' refers to low grade

## Mineral Resources Table – Canadian Exploration portfolio



Mineral Resources		Mt	Grade ppm U <sub>3</sub> O <sub>8</sub>	Mlb U <sub>3</sub> O <sub>8</sub> (100% basis)	Paladin Ownership (%)
Canada					
Measured	Michelin <sup>1</sup>	17.6	965	37.6	60
	Rainbow <sup>2</sup>	0.2	920	0.4	60
Indicated	Gear <sup>2</sup>	0.4	770	0.6	60
	Inda <sup>2</sup>	1.2	690	1.8	60
	Jacques Lake <sup>1</sup>	13.0	630	18.0	60
	Michelin <sup>1</sup>	20.6	980	44.6	60
	Nash <sup>2</sup>	0.7	830	1.2	60
	Rainbow <sup>2</sup>	0.8	860	1.4	60
Inferred	Gear <sup>2</sup>	0.3	920	0.6	60
	Inda <sup>2</sup>	3.3	670	4.8	60
	Jacques Lake <sup>1</sup>	3.6	550	4.4	60
	Michelin <sup>1</sup>	4.5	985	9.9	60
	Nash <sup>2</sup>	0.5	720	0.8	60
	Rainbow <sup>2</sup>	0.9	810	1.6	60
Total Canada		67.7	860	127.7	60

Note: Values may not add due to rounding

Refer ASX Announcement dated 31 January 2018 "Correction to 30 June 2017 Annual Report" pp13-15, JORC Code 2012 compliant
 Refer SEDAR lodgment (TSX:FRG) dated 8 September 2009 "Fronteer Reports Positive Preliminary Economic Assessment for Michelin Uranium Project", JORC Code 2004 compliant

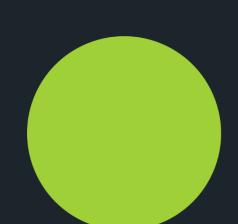
## Mineral Resources Table – Australian Exploration portfolio



Mineral Resources		Mt	Grade ppm U₃O <sub>8</sub>	Mlb U $_3$ O $_8$ (100% basis)	Paladin Ownership (%)
Australia					
Measured	Valhalla <sup>1</sup>	16.0	820	28.9	100
Indicated	Andersons <sup>2</sup>	1.4	1,450	4.6	100
	Bikini <sup>3</sup>	5.8	495	6.3	100
	Duke Batman <sup>4</sup>	0.5	1,370	1.6	100
	Odin <sup>5</sup>	8.2	555	10.0	100
	Skal <sup>6</sup>	14.3	640	20.2	100
	Valhalla <sup>1</sup>	18.6	840	34.5	100
	Carley Bore <sup>7</sup>	5.4	420	5.0	100
	Manyingee <sup>8</sup>	8.4	850	15.7	100
Inferred	Andersons <sup>2</sup>	0.1	1,640	0.4	100
	Bikini <sup>3</sup>	6.7	490	7.3	100
	Duke Batman <sup>4</sup>	0.3	1,100	0.7	100
	Honey Pot <sup>9</sup>	2.6	700	4.0	100
	Mirrioola <sup>10</sup>	2.0	560	2.5	100
	Odin <sup>5</sup>	5.8	590	7.6	100
	Skal <sup>6</sup>	1.4	520	1.6	100
	Valhalla <sup>1</sup>	9.1	640	12.8	100
	Watta <sup>11</sup>	5.6	400	5.0	100
	Warwai <sup>11</sup>	0.4	360	0.3	100
	Carley Bore <sup>7</sup>	17.4	280	10.6	100
	Manyingee <sup>8</sup>	5.4	850	10.2	100
Total Australia		135.4	635	189.8	100

Note: Values may not add due to rounding. ¹Refer Announcement (ASX:SMM) dated 19 October 2010 "Resource Upgrade for the Valhalla Uranium Deposit", JORC Code 2004 compliant ²Refer ASX Announcement dated 16 April 2012 "Quarterly Activities Report for period ending 31 March 2011, JORC Code 2004 compliant ⁴Refer ASX Announcement dated 15 April 2011 "Quarterly Activities Report for period ending 31 March 2011, JORC Code 2004 compliant ⁴Refer ASX Announcement dated 31 August 2011 "30 June 2011 Annual Report" p29, JORC Code 2004 compliant ⁵Refer ASX Announcement dated 17 January 2012 "Quarterly Activities Report for period ending 31 December 2011", JORC Code 2004 compliant ⁵Refer ASX Announcement (ASX:EMX) dated 12 February 2014 "Energia Delivers Significant Uranium Resource Upgrade", JORC Code 2012 compliant ⁵Refer ASX Announcement dated 14 January 2014 "Manyingee Minerals Resources - Amendment", JORC Code 2012 compliant ⁵Refer ASX Announcement dated 10 December 2008 "Maiden Uranium Resource at Valhalla North Project", JORC Code 2004 compliant ¹Refer ASX Announcement dated 27 August 2019 "30 June 2012 Annual Report" p27 and 129, JORC Code 2004 compliant ¹Refer ASX Announcement dated 27 August 2019 "30 June 2019 Annual Report" p14, JORC Code 2004 compliant







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Clean energy. Clear future.