NORTHERN MINERALS

ASX Announcement

16 January 2025

15% increase in Wolverine Mineral Resource Estimate total TREO[1] tonnes
75% increase in Measured & Indicated TREO tonnes

Highlights

- The Mineral Resource Estimate (MRE) for the Wolverine Deposit – the flagship heavy rare earths deposit at Browns Range – has increased 13% in tonnes to 7.3 Mt @ 0.96% Total Rare Earth oxides (TREO) for a 15% increase in contained metal to 70,500 t when compared to the 2022 MRE[2, 3].
- Importantly, the Measured and Indicated Resources total 5.0 Mt @ 1.13% TREO for 55,400 t of TREO, which when compared with the 2022 MRE[3] results in:
    - a **47%** increase in the tonnes
    - a **20%** increase in the TREO grade, and
    - a **75%** increase in the TREO metal tonnes
- This updated MRE incorporated results of over 23,000 m from the 58-hole infill diamond drilling programs carried out in late 2022 and 2023-24.
- This MRE marks a significant step in the development of the Browns Range Project and will form the basis of the revised mining engineering component of the forthcoming Feasibility Study.

[1] TREO – Total Rare Earth Oxides
[2] Reported in accordance with the guidelines of the Joint Ore Reserves Committee (JORC), 2012. "*Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves.*"
[3] ASX Announcement 10 October 2022 "Independent review increases Wolverine REE Mineral Resource estimate by 47% at Browns Range" – note this is a global increase in total Mineral Resources, which is not comparable to the estimate reported above.

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Australia heavy rare earths-focused company Northern Minerals (**ASX: NTU**) (**Northern Minerals** or the **Company**) is pleased to announce a significant increase in the size of the Mineral Resource Estimate (MRE) for the Wolverine deposit at the Company's Browns Range Heavy Rare Earths Project, in the East Kimberley region of Western Australia.

Wolverine is the largest and most significant heavy rare earths deposit at Browns Range. The upgraded MRE is the result of a highly successful infill program completed across Wolverine in late 2022 and 2023/24, comprising 58 diamond holes for 23,286 m. The primary purpose of the infill program was to upgrade MRE tonnes from Inferred into the Measured & Indicated categories to inform an update to the Feasibility Study (FS).

The successful outcome of the MRE upgrade work delivered a 15% increase in Wolverine's total resource to 7.3Mt @ 0.96% Total Rare Earth Oxides (TREO) for 70,500 t of contained metal tonnes. Importantly, the proportion of the MRE in the Measured and Indicated categories has shifted significantly to 5.0 Mt at 1.13% TREO for 55,400 t of contained metal tonnes, an increase of 75% compared to the 2022 Mineral Resource Estimate (2022 MRE).[4]

Table 1: Comparison of 2022 Mineral Resource estimate with 2025 Mineral Resource estimate above a 0.15% TREO cut-off grade.

Classification	Resource Tonnage Mt	TREO %	TREO t
Wolverine Mineral Resource estimate 2022			
Measured & Indicated	3.39	0.94	31,737
Inferred	3.05	0.98	29,756
Subtotal	**6.44**	**0.96**	**61,492**
Wolverine Mineral Resource estimate 2025			
Measured & Indicated	5.0	1.13	55,400
Inferred	2.4	0.63	15,100
Subtotal	**7.3**	**0.96**	**70,500**
% Change in Wolverine Mineral Resource estimate comparing 2022 to 2025			
Measured & Indicated	47%	20%	75%
Inferred	-21%	-36%	-49%
Total	**13%**	**0%**	**15%**

Notes:

- *Rounding may have caused computational discrepancies.*
- *TREO = Total Rare Earth Oxides – La_2O_3, CeO_2, Pr_6O_{11}, Nd_2O_3, Sm_2O_3, Eu_2O_3, Gd_2O_3, Tb_4O_7, Dy_2O_3, Ho_2O_3, Er_2O_3, Tm_2O_3, Yb_2O_3, Lu_2O_3, Y_2O_3.*
- *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, Er_2O_3, Tm_2O_3, Yb_2O_3, Lu_2O_3, Y_2O_3.*
- HREO% = HREO/TREO*100
- Wolverine 2025 Open Pit MRE constrained within open pit design, and above 0.15% TREO COG
- Wolverine 2025 Underground MRE reported below base of open pit design, i.e., 325mRL, and above 0.15% TREO COG
- Wolverine 2022 MRE unconstrained by pit shell or RL.

[4] ASX Announcement 10 October 2022 "Independent review increases Wolverine REE Mineral Resource estimate by 47% at Browns Range".

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Browns Range is a globally significant heavy rare earths project containing high grades of dysprosium and terbium, which are essential for high-performance permanent magnets used in electric vehicles, wind turbines and specialist defence applications. Northern Minerals has a long-term supply and funding partnership with Iluka Resources (ASX: ILU) to supply Iluka's Eneabba rare earths refinery, currently under-construction.

Commenting on the upgraded Wolverine MRE, Northern Minerals' Managing Director and CEO Shane Hartwig said:

"We are extremely pleased with this upgraded Wolverine Mineral Resource Estimate, which has increased both the overall volume of rare earths tonnes as well as confidence levels in the deposit as we progress down the path of developing a mining operation at Browns Range.

This updated MRE is the result of significant work undertaken by the Northern Minerals team, supported by external consultants. It included designing, implementing and analysing extensive drill campaigns since 2022 as well as a detailed re-logging and analysis of historical drill core to develop a geological domain and sub-domaining approach for the estimate.

The successful outcome of the work over the past two years has resulted in the re-classification of much of the Inferred component of the 2022 MRE into the higher-confidence Measured & Indicated classifications. The infill program was partly funded by the Federal Government's Critical Minerals Development Fund.

Today's MRE upgrade for Wolverine marks an important milestone in the proposed development of a commercial-scale mining operation at Browns Range, particularly as we continue discussions with parties in relation to funding options. Our team is in the process of incorporating this upgraded Wolverine MRE into mine planning and production scheduling to determine the ultimate project shape for the Project and enable the FS to be finalised."

The 2025 Wolverine Mineral Resource estimate summary, individual TREO variables, and comparison to 2022 Mineral Resource estimate

2025 Wolverine Mineral Resource Estimate

Wolverine is a structurally controlled hydrothermal breccia deposit and is the most significant within the Browns Range mineralised system discovered to date. The Wolverine Mineral Resource estimate will form the basis of the forthcoming Feasibility Study.

The MRE of rare earth oxide resources at the Wolverine deposit was compiled by Entech Pty Ltd (Entech), under supervision of the Northern Minerals Competent Persons (Kurt Warburton and Dale Richards). An Independent audit of the Mineral Resource estimate was conducted by AMC Consultants PTY Ltd (AMC). The Mineral Resource estimate is reported in accordance with the JORC Code[2] and includes an additional 58 infill diamond drill holes for 23,286 m which were drilled since the previous 2022 MRE[3]. The drilling was completed during two separate drilling

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campaigns, the first consisting of 16 drill holes completed between November 2022 and April 2023, and the second program consisting of 42 drill holes completed between November 2023 and May 2024.

This data has supported an increase in the Mineral Resource estimate, and importantly in the conversion of a significant component of the Inferred resource to Measured and Indicated resource for the Wolverine deposit.

The Wolverine Mineral Resource is now estimated at 7.3 Mt at 0.96 % TREO comprising 70,500 t TREO using a cut-off grade of 0.15 % TREO, which is a 15 % increase in TREO tonnes from the previous estimate. Incorporating the upgrade of the Wolverine deposit, the Global Mineral Resource identified within the Browns Range system is now estimated at 11.7 Mt @ 0.77 % TREO comprising 90,450 t TREO using a cut-off grade of 0.15 % TREO.

The Wolverine Mineral Resource estimate has improved geological confidence compared to the 2022 MRE for the following reasons:

- Additional diamond drilling to support improved confidence in Mineral Resource estimation, geotechnical assessment and additional supporting metallurgical testwork.
- Structural model wireframes from the 2022 MRE were refined and updated with additional drilling data, and includes 3 additional fault interpretations not previously modelled.
- Weathering surfaces and associated volumes updated, replacing the 2014 interpretations.
- Development and implementation of Domain and Subdomain strategy:
    - Detailed core analysis of the mineralised intercepts, resulting in the development of visually differentiated Hydrothermal Breccia intensity and texture log code system.
    - Relogging of 163 diamond drill mineralised intersections (12,820 m) applying the updated log code system.
    - Applied implicit modelling to the updated log data, to develop geological domain and sub-domains for the Wolverine deposit.
- Detailed statistical analysis of data populations globally and per geological domain and sub domain.
- Updated the grade interpolation methodology to improve the estimation through:
    - Application of geological domaining and sub domaining.
    - Application of Ordinary Kriging.
- Updated the Mineral Resource estimate classification criteria, providing a more rigorous classification approach.

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Table 2: Mineral Resource estimate for the Wolverine deposit as at 15 January 2025 reported above a 0.15 % TREO cut-off grade.

Classification	Tonnage Mt	TREO %	Dy_2O_3 kg/t	Y_2O_3 kg/t	Tb_4O_7 kg/t	HREO / TREO %	TREO t
Wolverine Open Pit Mineral Resource estimate							
Measured	0.1	0.91	0.84	5.4	0.12	92	1,000
Indicated	0.7	0.76	0.67	4.42	0.09	90	5,200
Inferred	0.1	0.3	0.2	1.36	0.03	69	300
Subtotal	**0.9**	**0.72**	**0.63**	**4.19**	**0.09**	**89**	**6,500**
Wolverine Underground Mineral Resource estimate							
Measured	0	0	0	0	0	0	0
Indicated	4.2	1.19	1.05	7.1	0.15	91	49,200
Inferred	2.3	0.64	0.55	3.7	0.08	87	14,800
Subtotal	**6.4**	**0.99**	**0.88**	**5.89**	**0.13**	**89**	**64,000**
Wolverine Total Mineral Resource estimate							
Measured	0.1	0.91	0.84	5.4	0.12	92	1,000
Indicated	4.9	1.13	1.00	6.72	0.14	91	54,400
Inferred	2.4	0.63	0.54	3.6	0.08	87	15,100
Total	**7.3**	**0.96**	**0.85**	**5.68**	**0.12**	**89**	**70,500**

Notes:

- *Rounding may have caused computational discrepancies.*
- *TREO = Total Rare Earth Oxides – La_2O_3, CeO_2, Pr_6O_{11}, Nd_2O_3, Sm_2O_3, Eu_2O_3, Gd_2O_3, Tb_4O_7, Dy_2O_3, Ho_2O_3, Er_2O_3, Tm_2O_3, Yb_2O_3, Lu_2O_3, Y_2O_3*
- *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, Er_2O_3, Tm_2O_3, Yb_2O_3, Lu_2O_3, Y_2O_3*
- HREO% = HREO/TREO*100
- Wolverine Open Pit MRE constrained within open pit design, and above 0.15% TREO COG
- Wolverine Underground MRE reported below base of open pit design, i.e., 325mRL, and above 0.15% TREO COG

Table 3: Wolverine Open Pit Mineral Resource estimate at 15 January 2025 reported above a 0.15 % TREO cut-off grade – all TREO variables.

Class	Tonnes (kt)	La_2O_3 ppm	CeO_2 ppm	Pr_6O_{11} ppm	Nd_2O_3 ppm	SM_2O_3 ppm	Eu_2O_3 ppm	Gd_2O_3 ppm	TB_4O_7 ppm	Dy_2O_3 ppm	Ho_2O_3 ppm	Er_2O_3 ppm	Tm_2O_3 ppm	Yb_2O_3 ppm	Lu_2O_3 ppm	Y2O3 ppm
Meas	100	120	290	50	250	210	40	550	120	840	170	500	70	410	60	5,400
Ind	700	140	350	50	230	150	30	390	90	670	140	420	60	360	50	4,400
Inf	100	200	470	60	220	50	10	120	30	200	40	120	20	100	10	1,400
Total	**900**	**160**	**360**	**60**	**230**	**140**	**30**	**380**	**90**	**630**	**140**	**400**	**60**	**340**	**50**	**4,000**

Notes:

- *Rounding may have caused computational discrepancies.*
- *Wolverine Open Pit MRE constrained within open pit design, and above 0.15% TREO COG.*

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Table 4: Wolverine Underground Mineral Resource estimate at 15 January 2025reported above a 0.15 % TREO cut-off grade – all TREO variables.

Class	Tonnes (kt)	La_2O_3 ppm	CeO_2 ppm	Pr_6O_{11} ppm	Nd_2O_3 ppm	SM_2O_3 ppm	Eu_2O_3 ppm	Gd_2O_3 ppm	TB_4O_7 ppm	Dy_2O_3 ppm	Ho_2O_3 ppm	Er_2O_3 ppm	Tm_2O_3 ppm	Yb_2O_3 ppm	Lu_2O_3 ppm	Y2O3 ppm
Meas	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ind	4,200	200	500	70	340	260	50	710	160	1,050	210	600	80	460	60	7,100
Inf	2,300	170	400	50	220	120	30	330	80	550	120	330	50	270	40	3,700
Total	**6,500**	**170**	**430**	**60**	**280**	**210**	**50**	**590**	**130**	**870**	**180**	**500**	**70**	**390**	**50**	**5,900**

Notes:

- *Rounding may have caused computational discrepancies.*
- *Wolverine Underground MRE reported below base of open pit design, i.e., 325mRL, and above 0.15% TREO COG.*

Table 5: Wolverine Total Mineral Resource estimate at 15 January 2025 reported above a 0.15 % TREO cut-off grade – all TREO variables.

Class	Tonnes (kt)	La_2O_3 ppm	CeO_2 ppm	Pr_6O_{11} ppm	Nd_2O_3 ppm	SM_2O_3 ppm	Eu_2O_3 ppm	Gd_2O_3 ppm	TB_4O_7 ppm	Dy_2O_3 ppm	Ho_2O_3 ppm	Er_2O_3 ppm	Tm_2O_3 ppm	Yb_2O_3 ppm	Lu_2O_3 ppm	Y2O3 ppm
Meas	100	120	290	50	250	210	40	550	120	840	170	500	70	410	60	5,400
Ind	4,800	190	480	70	320	240	50	670	150	1,000	200	570	80	450	60	6,700
Inf	2,400	170	400	50	220	110	20	320	80	540	110	320	40	270	40	3,600
Total	**7,300**	**170**	**420**	**60**	**280**	**200**	**40**	**560**	**120**	**840**	**170**	**490**	**70**	**380**	**50**	**5,700**

Notes:

- *Rounding may have caused computational discrepancies.*
- *Wolverine Open Pit MRE constrained within open pit design, and above 0.15% TREO COG.*
- *Wolverine Underground MRE reported below base of open pit design, i.e., 325mRL, and above 0.15% TREO COG.*

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2025 Global Browns Range Mineral Resource Estimate

Table 6: Browns Range WA Global Mineral Resource estimate at 15 January 2025 reported above a 0.15 % TREO cut-off grade.

Deposit	Classification	Tonnage Mt	TREO %	Dy_2O_3 kg/t	Y_2O_3 kg/t	Tb_4O_7 kg/t	HREO / TREO %	TREO t
Wolverine OP	**Measured**	0.1	0.91	0.84	5.4	0.12	92	1,000
	Indicated	0.7	0.76	0.67	4.42	0.09	90	5,200
	Inferred	0.1	0.3	0.2	1.36	0.03	69	300
	Subtotal	**0.9**	**0.72**	**0.63**	**4.19**	**0.09**	**89**	**6,500**
Wolverine UG	**Measured**	0	0	0	0	0	0	0
	Indicated	4.2	1.19	1.05	7.1	0.15	91	49,200
	Inferred	2.3	0.64	0.55	3.7	0.08	87	14,800
	Subtotal	**6.4**	**0.99**	**0.88**	**5.87**	**0.13**	**89**	**64,000**
Wolverine Total	**Measured**	0.1	0.91	0.84	5.4	0.12	92	1,000
	Indicated	4.9	1.13	1.00	6.72	0.15	91	54,400
	Inferred	2.4	0.63	0.54	3.6	0.08	87	15,100
	Subtotal	**7.3**	**0.96**	**0.84**	**5.66**	**0.12**	**90**	**70,500**
Gambit West	**Measured**	0	0	0	0	0	0	0
	Indicated	0.12	1.8	1.62	11.0	0.22	94	2,100
	Inferred	0.13	0.5	0.40	2.67	0.05	81	700
	Subtotal	**0.25**	**1.11**	**0.97**	**6.56**	**0.13**	**91**	**2,800**
Pilot Plant Stockpiles	**Measured**	0	0	0	0	0	0	0
	Indicated	0.16	0.95	0.83	5.5	0.12	89	1,500
	Inferred	0.03	0.26	0.20	1.35	0.03	79	90
	Subtotal	**0.2**	**0.82**	**0.71**	**4.71**	**0.1**	**88**	**1,600**
Gambit	**Measured**	0	0	0	0	0	0	0
	Indicated	0	0	0	0	0	0	0
	Inferred	0.2	0.89	0.83	5.62	0.11	96	1,900
	Subtotal	**0.2**	**0.89**	**0.83**	**5.62**	**0.11**	**96**	**1,900**
Area 5	**Measured**	0	0	0	0	0	0	0
	Indicated	1.38	0.29	0.18	1.27	0.03	69	4,000
	Inferred	0.14	0.27	0.17	1.17	0.03	70	400
	Subtotal	**1.52**	**0.29**	**0.18**	**1.26**	**0.03**	**69**	**4,400**
Cyclops	**Measured**	0	0	0	0	0	0	0
	Indicated	0	0	0	0	0	0	0
	Inferred	0.33	0.27	0.18	1.24	0.03	70	890
	Subtotal	**0.3**	**0.27**	**0.18**	**1.24**	**0.03**	**70**	**891**
Banshee	**Measured**	0	0	0	0	0	0	0
	Indicated	0	0	0	0	0	0	0
	Inferred	1.7	0.21	0.16	1.17	0.02	87	3,500
	Subtotal	**1.7**	**0.21**	**0.16**	**1.17**	**0.02**	**87**	**3,500**
Dazzler	**Measured**	0	0	0	0	0	0	0
	Indicated	0	0	0	0	0	0	0
	Inferred	0.2	2.33	2.17	13.9	0.29	95	5,000
	Subtotal	**0.2**	**2.33**	**2.17**	**13.9**	**0.29**	**95**	**5,000**
Total	**Measured**	0.1	0.91	0.84	5.40	0.12	92	1,000
	Indicated	6.6	0.96	0.83	5.62	0.12	86	62,000
	Inferred	5.1	0.54	0.46	3.06	0.06	86	27,500
	Total	**11.7**	**0.77**	**0.67**	**4.49**	**0.09**	**86**	**90,500**

Notes:

- *Rounding may have caused computational discrepancies.*
- *TREO = Total Rare Earth Oxides – La_2O_3, CeO_2, Pr_6O_{11}, Nd_2O_3, Sm_2O_3, Eu_2O_3, Gd_2O_3, Tb_4O_7, Dy_2O_3, Ho_2O_3, Er_2O_3, Tm_2O_3, Yb_2O_3, Lu_2O_3, Y_2O_3.*
- *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, Er_2O_3, Tm_2O_3, Yb_2O_3, Lu_2O_3, Y_2O_3.*
- HREO % = HREO/TREO*100
- Wolverine Open Pit MRE constrained within open pit design, and above 0.15 % TREO COG
- Wolverine Underground MRE reported below base of open pit design, i.e., 325 mRL, and above 0.15 % TREO COG

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TECHNICAL INFORMATION ASX LISTING RULES CHAPTER 5.8

GEOLOGY AND GEOLOGICAL INTERPRETATION

The Browns Range area, illustrated by Figure 1, is located immediately north of the Proterozoic Tanami-Arunta Block, and within the Proterozoic Birrundudu Basin. The Project is located on the western side of the Browns Range Dome (the Dome), a Palaeoproterozoic dome formed by a granitic core intruding the Palaeoproterozoic Browns Range Metamorphics and an Archaean-Palaeoproterozoic orthogneiss and schist unit to the south. The Dome and its aureole of metamorphics are surrounded by the Mesoproterozoic Gardiner Sandstone which forms part of the Birrindudu Basin sequence. The Browns Range Metamorphics consist of metamorphosed arkoses, arenites, siltstone, and minor calc-silicate rocks. The Birrindudu Group dominantly comprises siliciclastic rocks ranging in age from Palaeoproterozoic to Neoproterozoic.

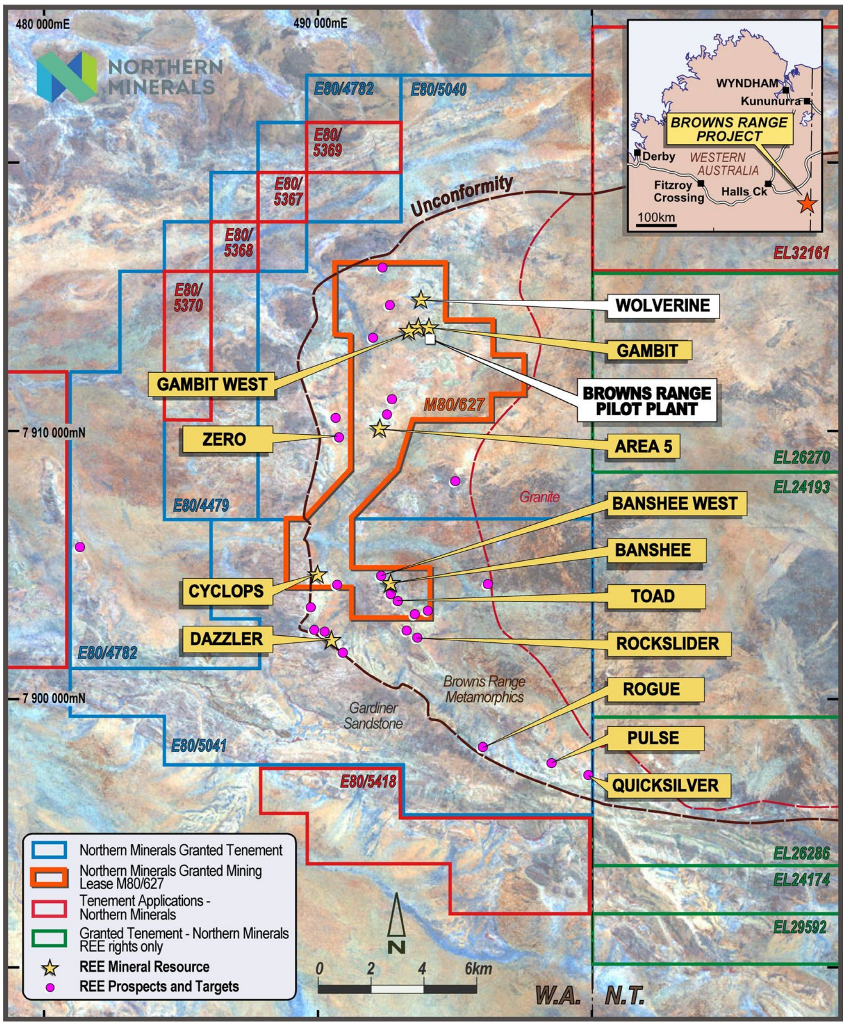

Figure 1: Browns Range Heavy Rare Earth Project - prospect location plan

The Wolverine deposit is underlain by Browns Range Metamorphics, which locally are a variable sequence of meta quartz-lithic and arkosic arenites and conglomerates with minor interbedded

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schists (Goulevitch, 2010). The unconformity between the overlying Gardiner Sandstone and the Browns Range Metamorphics is located approximately 3 km – 6 km to the west and north of Wolverine. To the south of Wolverine (approximately 5 km) is an interpreted package of non-outcropping ultramafic rocks, of unknown age. Locally at Wolverine, the hosting Browns Range Metamorphics are a mixture of meta-quartz-lithic and arkosic arenites and conglomerates with minor interbedded schists. The host rocks in the mineralised zone are silicified and brecciated along structures trending approximately east-west and dipping steeply to the north. Hematite and sericite alteration are associated with mineralisation.

The style of mineralisation is xenotime hydrothermal breccia. Xenotime is associated with varying degrees of veining and brecciation; from 1 mm to 2 mm crackle vein selvages to matrix infill in 5 m-wide zones of chaotic breccia. There are open-spaced textures, vugs and minor cross-cutting quartz, pyrite and barite veins that are interpreted to post-date mineralisation.

The Browns Range REE mineralisation is one of only a few hydrothermal xenotime mineralisation styles documented globally. Detailed mapping, structural, alteration and mineralisation studies have been completed by NTU geologists and contracted specialists between 2011 and 2024. These data and close spaced drilling, generally <25 m, has led to a good understanding of mineralisation controls. The REE mineralisation is hosted by approximately east-west striking structures and veins, within a coarse sedimentary package on the western side of the regionally extensive Browns Range Dome.

Breccia and quartz vein structures are mappable and can be followed with confidence under transported cover using geochemistry and step-out drilling. There is associated sericite-hematite-silica alteration. The geological work is continually being refined. Currently, spectral, dating, geochemical, microprobe and fluid inclusion work are underway, coordinated by external research institutions.

The main mineralisation zone at Wolverine extends approximately 800 m in strike (east to west), up to 44 m across strike and from surface to -250 mRL (approximately 700 m down dip). Within this zone the bulk of the economic mineralisation has a strike extent of 200 m to 350 m.

The continuity of the overall mineralisation volume is defined by the interaction of the three main controlling structures at Wolverine: Capybara Fault on the footwall, Hamster Fault on the hanging wall, and their intersection with Kurts Cut-Off Fault. Within this volume, breccia intensity provides a control on grade tenor and is generally located closest to the intersection of the Kurts Cut-Off Fault. Brecciation type can change over short scale, i.e., metres. The brecciation subdomain relationship with the faults is illustrated by Figure 3 and Figure 4.

Explicit wireframe interpretations were undertaken in Datamine Studio RM™ software. Mineralisation intercepts in drill holes were manually selected into individual domains based on geological and grade continuity, which were then used to create implicit vein models in Leapfrog Geo modelling software.

Interpretation of the main mineralisation zone was largely based on the geometry of the bounding faults, the Capybara and Hamster Faults, and truncated to the east by Kurts Cut-Off Fault. This zone is defined by breccia logging, structural modelling, and a nominal total rare earth oxide (TREO) grade of 150 ppm. Within this zone, six different breccia styles and 1 unbrecciated style (xenotime “BX”, polymictic “BP”, hematite “BH”, sericite “BS”, quartz “BQ”, undifferentiated

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"B" and unbrecciated) were modelled using hierarchical indicator radial basis function (RBF) models based on brecciation intensity and texture within the main mineralised zone.

The brecciation subdomain RBF models were used to code resource model blocks in the main mineralisation zone, which are broadly illustrated by Figure 3 by grouping BX, BP, and BH as intense brecciation, BS and BQ as moderate brecciation, and B and others as lower or undifferentiated brecciation. Statistics confirm the correlation between the TREO% grades and the brecciation intensities, which confirms the success of the relogging campaign and the subdomain modelling approach for reporting the MRE update.

Sub-ordinate, sub-parallel hanging wall (four) and footwall (two) domains were defined by breccia logging and a nominal total rare earth oxide (TREO) grade of 150 ppm.

To the west, the lateral extent and orientation of these lithologies is limited by logging data.

In hanging wall sub-horizontal sedimentary units, low-grade, strata bound domains (11) were modelled where anomalous TREO grades were present.

SAMPLING AND SUB-SAMPLING TECHNIQUES

RC samples were dominantly collected from the drill rig by either riffle splitting or using a static cone splitter. All samples were collected dry with a minor number being moist due to ground conditions or excessive dust suppression. RC drill holes were sampled at 1 m intervals exclusively and split at the rig to achieve a target 2 kg – 5 kg sample weight.

The Q4 2014 drilling program undertaken at Wolverine used manual riffle splitting to achieve enhanced sample quality. No splitter was mounted on the rig and bulk samples were split post-drilling by NTU staff using a triple-tier riffle splitter. The splitter was configured to produce approximately 12.5% primary, 12.5% duplicate and 75% reject sample.

In the field, a series of Niton (XL3T-950 GOLDD+) XRF handheld tools were used to assist with the identification of mineralised zones for sample collection and submission. A reading time of 30 seconds was used, with readings taken for every metre of RC drilling. Intervals for which readings returned of 200 ppm Y or greater were selected for analysis, as were a selection of -200 ppm Y samples (NTU, 2015).

All primary RC samples were analysed for yttrium using a handheld Niton portable X-ray fluorescence (pXRF) device. The results, along with geological logging, were used for sample selection. An appropriate width either side of the mineralised zone was also sampled.

Diamond core was cut in half using an electric core saw. Sample intervals were selected based on lithological and structural features, together with indicative results from pXRF measurements. The same side of the core was taken for sampling. Drill core was sampled at nominal 1 m intervals, although constrained within geological intervals. Appropriate widths either side of mineralised zones were also sampled.

For intervals selected for field duplicates, the half-core was cut again to quarter-core.

Samples were collected on site under supervision of the geology team and stored in bulk bags on site prior to transport to the Genalysis Laboratory Services in Perth, the Project's laboratory for elemental analysis. Sample preparation techniques employed for the diamond and RC samples follow industry best practice. Diamond and RC samples were dried, crushed, split, and pulverised.

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DRILLING TECHNIQUES

The Wolverine deposit was drilled using a combination of reverse circulation (RC), diamond core from surface and diamond core tails from RC pre-collars. Drilling informing the Wolverine Mineral Resource estimate (MRE) included 243 RC holes, 85 diamond holes, and 66 RC pre-collar holes with diamond tails, totaling 394 drill holes for 73,828.41 m.

Diamond core drill holes consist of NQ and HQ sized core. RC drilling diameters were either 115 mm or 140 mm. Diamond core was oriented using a Reflex orientation tool. RC drilling was completed using face sampling hammer with hole depths ranging from 18 m to 324 m.

Drilling has been completed on a nominal 25 m× 25 m grid with closer spacing nearer surface and broader spacing applied at lateral extremities which supports the range of MRE classifications applied. The spacing of downhole intercepts of the mineralisation varies from the nominal collar spacing due to deviation of drill holes. The orientation of drill holes was determined at an obtuse angle to the interpreted mineralised structures; in general holes have been drilled at –60°. From the latter part of 2013, diamond drilling was completed using casing wedges and directional drilling at the Wolverine deposit, resulting in variable intersection angles.

Figure 2 illustrates the deposit pierce points of the additional 58 infill diamond drill holes for 23,286 m drilled since the previous 2022 MRE.

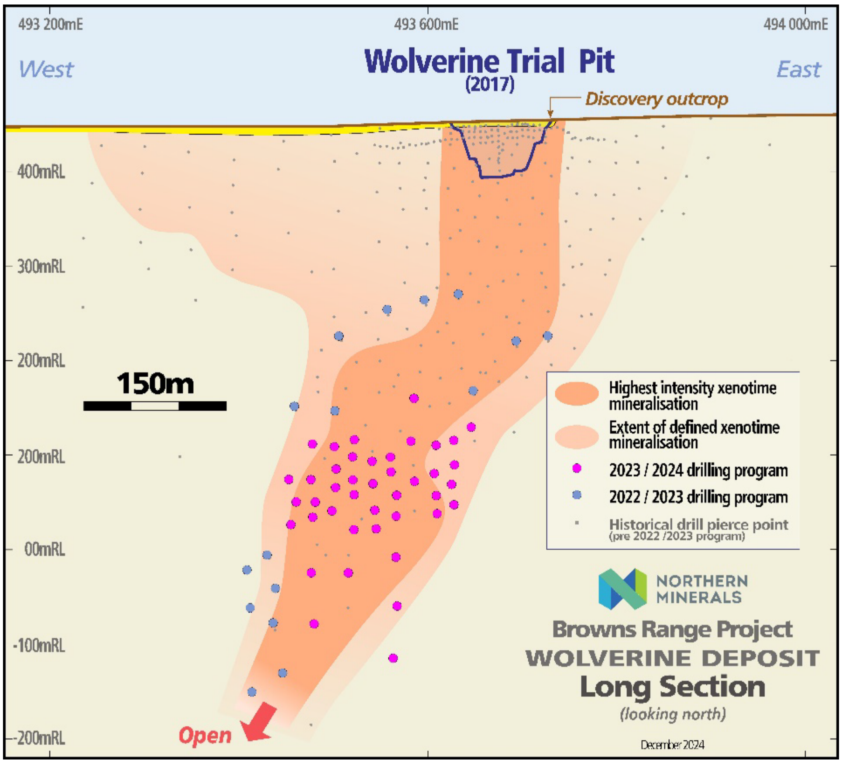

Figure 2: Schematic long-section facing north of the Wolverine deposit mineralisation envelopes highlighting diamond hole pierce points drilled since the 2022 MRE.

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CLASSIFICATION CRITERIA

Mineral Resources were classified as Measured, Indicated, and Inferred to appropriately represent confidence and risk with respect to all factors that are material to the Mineral Resource outcomes, including data quality, drill hole spacing, geological and grade continuity, and mineralisation volumes. Additional considerations were the stage of project assessment, amount of DD drilling undertaken and current understanding of mineralisation controls.

Measured Mineral Resources were defined where a strong level of geological confidence in geometry, continuity and grade was demonstrated, and were identified as areas where:

- Blocks were well supported by drill hole data with the average distance to the nearest sample being within 10 m or less.
- Estimation quality was considered good, as delineated by kriging efficiency above 0.9.

Indicated Mineral Resources were defined where a moderate level of geological confidence in geometry, continuity and grade was demonstrated, and were identified as areas where:

- Blocks were well supported by drill hole data with the average distance to the nearest sample being within 25 m or less.
- Estimation quality was considered reasonable, as delineated by kriging efficiency between 0.6 and 0.9.

Inferred Mineral Resources were defined where a low to moderate level of geological confidence in geometry, continuity and grade was demonstrated, and were identified as areas where:

- Blocks were supported by drill hole data with the average distance to the nearest sample being within 50 m or less.
- Estimation quality was considered low, as delineated by kriging efficiency below 0.6.

The above criteria were used as guidelines, and final block classification was within a boundary that approximated the classification criteria visually. As such, there may be blocks that do not satisfy the above criteria.

The reported Mineral Resource for open pit studies was constrained at depth by the available drill hole spacing outlined for Inferred classification, nominally 105 m below surface. Conceptual pit optimisations indicated that supergene areas of the MRE to the northwest and southeast did not meet the criteria for reasonable prospects for eventual economic extraction, and therefore a proportion of the deposit remained unclassified and have not been reported.

All classified Mineral Resources were reported inside the tenement boundary M80/627.

Mineralisation within the model which did not satisfy the criteria for classification as Mineral Resources remained unclassified.

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SAMPLE ANALYSIS METHOD

Samples assayed by Genalysis for rare earth elements were fused with sodium peroxide within a nickel crucible and dissolved with hydrochloric acid for analysis. Fusion digestion ensures complete dissolution of the refractory minerals such as xenotime. The digestion solution, suitably diluted, is analysed by Inductively coupled plasma mass spectrometry (ICP-MS) for the determination of the rare earth elements (La–Lu) plus Y, Th and U. Samples were dried, split if necessary, and pulverised prior to analysis of rare earth element suite using ICP-MS. Samples assayed for rare earth elements were fused with sodium peroxide within a nickel crucible and dissolved with hydrochloric acid for analysis. This fusion digestion ensures complete dissolution of the refractory minerals such as xenotime and is considered a total analysis. The digestion solution, suitably diluted, is analysed by ICP-MS for the determination of the rare earth elements (La–Lu) plus Y, Th and U.

Up to and including the 2013 drilling, the following analytical process was followed: DD and RC samples were dried, crushed/split if required and pulverised prior to analysis of rare earth element suite using ICP-MS. The sample preparation techniques employed for the DD and RC samples follow industry good practice.

In 2014, a two-tiered sampling system was employed: samples were dried, crushed/split if required and pulverised prior to preliminary analysis of the sample using a pXRF technique set to analyse for yttrium. A threshold value was set for the preliminary pXRF result, with all samples above this threshold (plus selected samples below the threshold) progressed for analysis by ICP-MS. Samples below the threshold were returned to NTU and further analysis was performed using a pXRF analyser for additional elements, including yttrium and cerium.

Adjustments made to the assay data by Genalysis were limited to the conversion of reported elemental assays for a range of elements to the equivalent oxide compound as applicable to rare earth oxides. Laboratory QAQC by Genalysis implements internal laboratory standards using certified reference materials (CRMs), blanks, splits and replicates, the results of which are reported to NTU on a regular basis.

NTU extensively uses pXRF technology in three main ways:

- In the field, for pre-selection of samples for further analysis.
- In parallel with sample preparation to select high-grade samples for full ICP-MS analysis.
- Analysis of pulp residues for quantification of yttrium and cerium in un-assayed intervals.

Where pXRF analyses were used in the MRE, the final rare earth oxide values were assigned from the raw analysis using correlation studies on samples for which both pXRF and ICP-MS were available. Very high correlations were established for pXRF analyses on laboratory prepared pulp samples with ICP-MS assays. All field pXRF data has been set to zero for the estimate. The quality of the sample analysis method has been incorporated into Mineral Resource classification.

ESTIMATION METHODOLOGY

Sample data were composited to a 1 m downhole length using a best fit method. Residual composite lengths (0.0 m – 0.5 m) were reviewed for metal loss against the raw samples, and a residual length of 0.4 m was decided upon, whereby composites less than 0.4 m long were discarded. Generally, under 1% of metal was lost per REE, per domain.

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Exploratory Data Analysis (EDA) and variography analysis of the capped and declustered, composited REE variables was conducted within individual breccia domains on representative elements for each rare earth grouping, i.e., Yttrium (HREE), Europium (MREE) and Cerium (LREE). Analysis of these representative elements was then compared against the other elements in that group and adjusted to best fit if required. Any individual element that did not fit within a group was analysed and estimated separately.

The top capping analysis and application looked at rare earth groupings within individual domains (sub-ordinate footwall and hanging wall domains were grouped for this analysis). Care was taken to ensure that the samples capped were the same for each element and any element that did not align with other elements in the group was treated separately for top capping and subsequent EDA and estimation. Top-caps were applied prior to block grade estimation.

The unbrecciated domain and sub-ordinate hanging wall and footwall domains showed relational similarities, underpinned by observed spatial and statistical analysis. The hanging wall and footwall domains had EDA outcomes applied from the unbrecciated domain. All EDA was completed in Supervisor™ software and exported for further visual and graphical review.

Following variography analysis, a variety of separate untransformed, log and normal scores variogram spherical, anisotropic models were applied to rare earth groups and individual domains and domain groups as noted above. Nugget values ranged from 0.03 to 0.32. Sill + nugget of the first variogram structure ranged from 0.18 to 0.75 with ranges of 13 m to 100 m. The second variogram structure had ranges from 31 m to 454 m.

An Ordinary Kriging (OK) interpolation approach in Datamine Studio RM™ was selected for all domains within the main breccia and subordinate hanging wall and footwall domains. Figure 4 shows that the estimated TREO% grades honour the drill hole sample grades.

Sub horizontal, strata-bound hanging wall domains were estimated with an Inverse Distance Squared (ID2) approach. Based on contact analysis and an understanding of the diffuse boundary between the breccia styles, a soft boundary was used between high to lower grade breccia types for estimation. All other estimates used domain boundaries as hard boundaries for grade estimation where only composite samples within that domain are used to estimate blocks coded as falling within that domain.

Estimation parameters, including estimate block size and search neighbourhoods, were derived through Kriging Neighbourhood Analysis (KNA).

Interpolation of rare earth elements using OK was undertaken within parent cell blocks. Dimensions for the interpolation were X: 10 mE, Y: 5 mN, Z: 5 mRL, with sub-celling of X: 2.50 mE, Y: 1.25 mN, Z: 1.25 mRL. Considerations relating to appropriate block size include drill hole data spacing, conceptual mining method, variogram continuity ranges and search neighbourhood optimisations through KNA.

Given that the deposit is well drilled (nominal 25 m drill spacing), a three-pass estimation search strategy was employed. Search ranges varied by domain and by rare earth element grouping (LREE, MREE, HREE), from 70 m – 460 m. Sub-horizontal hanging wall domains were estimated with no anisotropy and a range of 1,000 m. For the first pass a minimum of 6 samples were used and a maximum of 10 to 16. The second and third passes dropped the minimum samples required to 4 and 2, respectively, for all domains.

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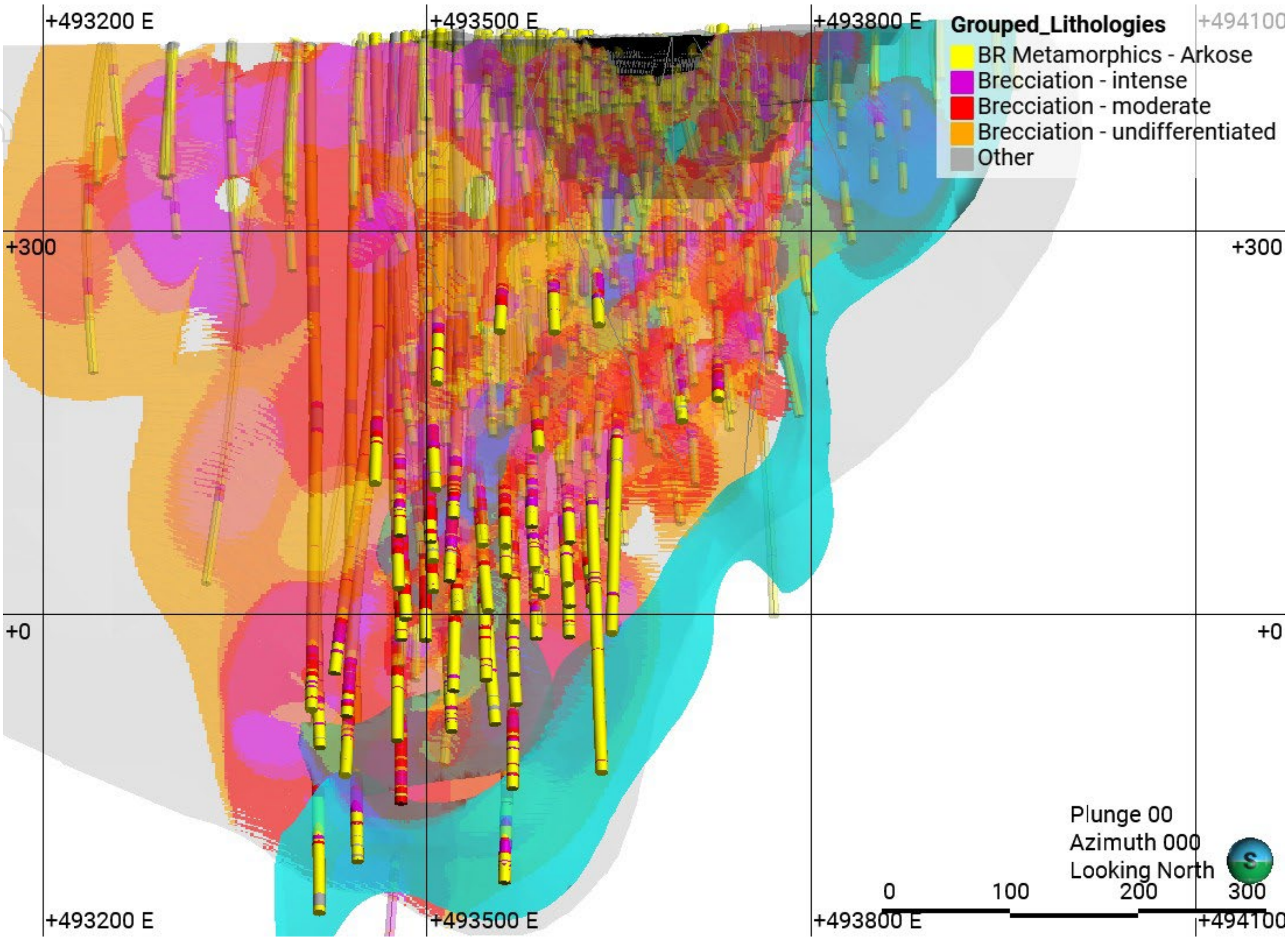

Figure 3: Long Section facing North showing hydrothermal breccia intensity and texture subdomains as logged from drilling and as coded in the block model from the subdomain RBF models. Intersections of Kurts Cut-Off Fault and Capybara/Hamsters Faults = light blue wireframe. Main mineralisation zone interpretation = grey wireframe. Pilot Plant Open Pit = black wireframe. Pit design = translucent dark grey wireframe.

Coordinate grid squares = 300 m.
Opaque holes drilled post 2022 MRE. Brecciation subdomains grouped to reduce clutter: "Breccia – intense" = BX & BP (magenta); "Breccia – moderate" = BH & BS & BL (red); "Breccia – undifferentiated" = B (orange).

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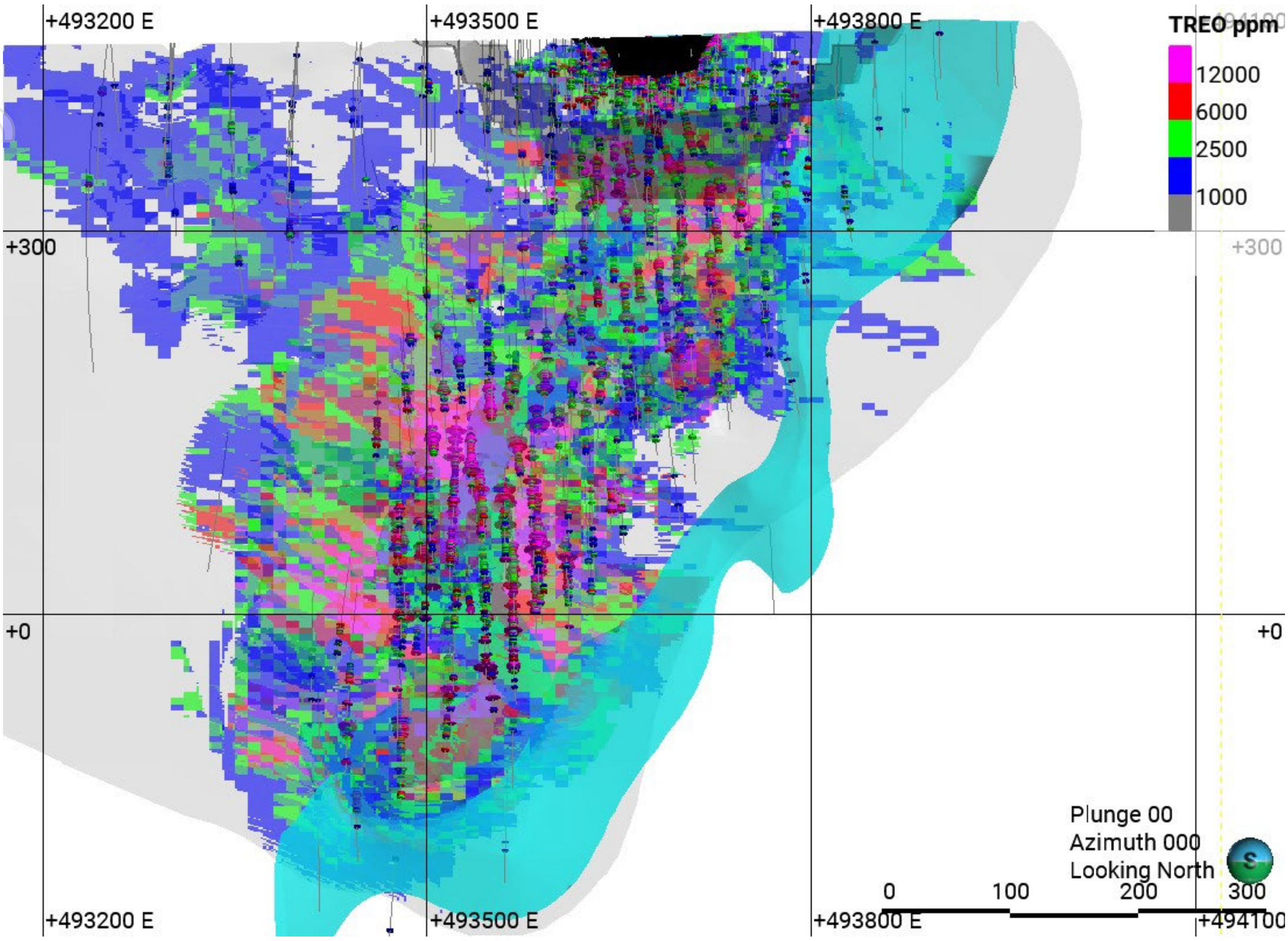

Figure 4: Long-section facing north of the Wolverine deposit block model showing the drill holes and interpolated blocks by TREO ppm above 1,000 ppm. Intersections of Kurts Cut-Off Fault and Capybara/Hamsters Faults in light blue. Main mineralisation zone interpretation = grey wireframe. Pilot Plant Open Pit = black wireframe. Pit design = translucent dark grey wireframe

TREO ppm grades: blue =d 1,000 – 2,500; green = 2,500 – 6,000; red = 6,000 – 12,000; pink >= 12,000.
Note that the grades estimated in the block model honour the drill hole sample grades.

CUT-OFF GRADE(S) (INCLUDING THE BASIS FOR THE SELECTED CUT-OFF GRADE(S))

Previous MREs for Wolverine have used a global TREO lower cut-off grade (COG) of 0.15% (1,500 ppm).

In-progress, detailed studies are evaluating the economics of the Wolverine REO deposit in the Browns Range Project to inform a Feasibility Study (FS) update. The scheduled ore tonnages from mining designs evaluated to date in the in-progress FS have been used to calculate the COG from appropriate mining and processing OPEX costs, recovery equations, and a premium considered reasonable by the Competent Person to the contained REO metal base case price for a REO concentrate product.

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These economic factors have been used to calculate a break-even COG of 0.2% by open pit mining and underground sub-level cave mining for Wolverine. The open pit MRE has been reported within the preliminary FS pit optimisation using the mining parameters, and the COG for these tonnages further reduced to 0.75% of the marginal COG to reflect opportunities within the pit to select lower grade blocks for blending, yielding a COG of 0.15% (1,500 ppm).

MINING AND METALLURGICAL METHODS AND PARAMETERS (AND OTHER MATERIAL MODIFYING FACTORS CONSIDERED TO DATE)

Metallurgical and mining studies at Wolverine are well advanced and have previously been internally considered to a FS standard while remaining subject to compilation of the upgraded MRE reported in this Announcement. These studies demonstrate that Wolverine has reasonable prospects for economic extraction.

Beneficiation testwork has confirmed that the Browns Range Project mineralisation can be processed using a relatively simple flowsheet consisting of crushing, sorting, grinding, magnetic separation and flotation.

The 2015 FS concluded that the Wolverine deposit is amenable to mining methods employing a combination of open pit and underground methods.

Development of the Browns Range Heavy Rare Earth Project flowsheet builds on work completed over the 13-year period from 2010 to 2023. The metallurgy and flowsheet development are based on the most recent three phases of work:

- Testwork and development to support the 2015 FS.
- Operation of the 1/10th scale Browns Range Pilot Plant (BRPP).
- Further testwork and development through 2023.

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COMPETENT PERSONS STATEMENT

The information in this report that relates to Section 1 and 2 of the JORC Code (Sampling Techniques and Data; and Reporting of Exploration Results) for the Wolverine Mineral Resource estimate is based on, and fairly represents, information compiled by Kurt Warburton. The information in this report that relates to Section 3 of the JORC Code (Estimation and Reporting of Mineral Resources) for the Wolverine Mineral Resource estimate is based on, and fairly represents, information compiled by Mr Dale Richards.

Mr Warburton and Mr Richards are full-time employees of Northern Minerals Ltd. Mr Warburton is a Member of the Australian Institute of Geoscientists (AIG - 8556) and Mr Richards is a Fellow of the Australasian Institute of Mining and Metallurgy (AusIMM - 3000724).

Mr Warburton and Mr Richards have sufficient experience relevant to the style of mineralisation and type of deposit under consideration and to the activity which they are undertaking to qualify as Competent Persons as defined in the 2012 edition of the Australasian Code for the Reporting of Exploration Results, Mineral Resources and Ore Reserves (JORC Code). Mr Warburton and Mr Richards consent to the disclosure of the information in this report in the form and context in which it appears.

Authorised by the Board of Directors of Northern Minerals Limited

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About Northern Minerals

Northern Minerals Limited (ASX: NTU) (**Northern Minerals** or the **Company**) owns 100% of the Browns Range Heavy Rare Earth (HRE) Project in northern Western Australia, tenements uniquely rich in the heavy rare earth elements dysprosium (Dy) and terbium (Tb).

Dysprosium and terbium are critical in the production of dysprosium neodymium iron-boron (DyNdFeB) magnets used in clean energy, defence, and high technology solutions. Dysprosium and terbium are prized because their unique properties improve the durability of magnets by increasing their resistance to demagnetisation.

The Project's flagship deposit is Wolverine, which is thought to be the highest-grade dysprosium and terbium orebody in Australia. The Company is preparing to bring Wolverine into production with the objective of providing a reliable alternative source of dysprosium and terbium to production sourced from China.

To further its strategic objective, Northern Minerals is undertaking a Feasibility Study for a commercial scale mining and process plant at Browns Range to process Wolverine ore.

Apart from Wolverine, Northern Minerals and has several additional deposits and prospects within the Browns Range Project that contain dysprosium and other heavy rare earth elements, hosted in xenotime mineralisation.

For more information, please visit northernminerals.com.au

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APPENDIX 1: JORC CODE 2012 TABLE 1

SECTION 1: SAMPLING TECHNIQUES AND DATA

Criteria	JORC Code explanation	Commentary
Sampling techniques	• *Nature and quality of sampling (e.g., cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.*	• Wolverine was sampled using a combination of reverse circulation (RC) drilling, diamond core from surface and diamond core tails. A total of 243 RC drill holes, 85 diamond holes and 66 RC holes with diamond tails were available for the resource estimate, for an overall total of 73,828.41 metres drilled. • Holes were typically drilled to UTM grid south at a dip of -60 degrees. • In the field a portable XRF handheld tool was used to provide a preliminary indication of mineralisation and assist with sample selection. Zones of geological interest and mineralised zones were identified and marked up to geological contacts by geologists. Diamond core was cut, with half core submitted to an external accredited laboratory for ICP-MS assay analysis.
	• *Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.*	• Surface (DD & RC) holes were angled to intersect the targeted mineralised zones at optimal angles. • RC drilling was typically employed for shallower levels of the resource, with diamond drilling employed to target the deeper resource areas. • RC samples were collected at one metre intervals and subsampled via cone or riffle splitters. • The diamond drill holes sampled and assayed were double or triple tubed HQ or NQsized core. • Diamond core was half-core sampled at nominal one-metre intervals and constrained to geological boundaries where appropriate. • The pXRF instrument is calibrated and serviced annually or more frequently. At the start of each sampling session, standards and silica blanks are analysed as a calibration check. • Sampling and assay results are carried out under NTU protocols which include QAQC procedures in line with industry standard practice.
	• *Aspects of the determination of mineralisation that are Material to the Public Report. In cases where 'industry standard' work*	• Diamond core was drilled using either double or triple tube at HQ and NQ sizes. HQ2 and HQ3 were variably employed for shallower parts of the hole depending on prevailing ground conditions, while the majority of diamond core intercepts within the mineralisation are at NQ3 size and sampled at a

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Criteria	JORC Code explanation	Commentary
	has been done this would be relatively simple (e.g., 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases, more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (e.g., submarine nodules) may warrant disclosure of detailed information.	nominal one metre interval (constrained to within geological intervals). • Diamond core was half-core sampled at nominal one-metre intervals and constrained to geological boundaries where appropriate. Sampling was carried out under NTU Standard Operating Procedures, and protocols and employed QAQC procedures in line with industry guidelines. • RC samples were collected at one metre intervals and subsampled via cone or riffle splitters to achieve a target 2–5-kilogram sample weight. • NTU samples were submitted to an independent contract laboratory for crushing and pulverising. Samples up to 3kg are crushed and pulverised in their entirety. Samples exceeding 3kg are crushed to 2mm from which a split up to 3kg is taken and pulverised, and the coarse reject retained. The pulverised portion is subsampled for analysis. The portion of the pulp of not consumed by analysis is archived for future reference. • Analysis of the rare earth element suite is conducted using a sodium peroxide fusion digest with Inductively coupled plasma mass spectrometry (ICP-MS). Since 2014, portable XRF measurements on the pulp residues have also been conducted at the lab prior to ICP-MS analysis.
Drilling techniques	• *Drill type (e.g., core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (e.g., core diameter, triple or standard tube, depth of diamond tails, face-sampling bit, or other type, whether core is oriented and if so, by what method, etc).*	• Diamond drill holes used in the estimation were NQ and HQ sized core. PQ sized core was used for establishing collar in 11 holes, converting to HQ once ground conditions stabilised. • Diamond core was orientated using the Reflex ACT orientation tool. • RC drilling was with nominal diameters of either 115 mm or 140 mm. • RC precollars to diamond tails range in depth from 47.9 m to 240.4 m. • RC drilling was completed using face sampling hammer with hole depths ranging from 18 m to 324 m.
Drill sample recovery	• *Method of recording and assessing core and chip sample recoveries and results assessed.*	• Diamond core is reconstructed into continuous runs on an angle iron cradle for orientation marking. Depths are checked against the depth given on the core blocks and rod counts are routinely carried out by the drillers. • Diamond recovery is measured by measuring the recovered core and comparing to the drilled interval between drillers blocks. Assessment showed that more than 98% of core intervals had recoveries greater than 90%. • RC recovery was assessed by a combination of weight of bulk sample against a nominal recovery mass, and

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Criteria	JORC Code explanation	Commentary
		via subjective assessment based on volume recovered. • RC recoveries were observed to be generally acceptable with recoveries typically 80% or greater. • Sample recoveries for RC and diamond core were digitally recorded in geology logs and entered the database.
	• *Measures taken to maximise sample recovery and ensure representative nature of the samples.*	• Diamond drilling has utilised triple tube techniques and drilling fluids where required to assist with maximising recoveries in less competent ground. Diamond core is reconstructed into continuous runs on an angle iron cradle for orientation marking. Depths are checked against the depth given on the core blocks and rod counts are routinely carried out by the drillers. Recovered core was measured and compared against driller's blocks. • RC sample recoveries were visually checked for recovery, moisture, and contamination. The cyclone and splitter were routinely cleaned ensuring no material build up.
	• *Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.*	• No relationship has been established between sample recovery and grade.
Logging	• *Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.*	• Diamond core was geologically and geotechnically logged using a predefined code library for lithological, mineralogical, and physical characteristics (such as colour, weathering, fabric) logging codes. • RC logging was completed at the rig by the geologist. Earlier drilling was logged onto paper and transferred to a digital form for loading into the drill hole database. Since early 2012 logging was completed directly onto a laptop in the field using a proprietary geological logging package with in-built validation. Logging information was reviewed by the responsible geologist prior to final load into the database. • RC cuttings were collected into chip trays for each 1 metre interval and photographed. • Core trays were photographed after mark-up prior to sampling. • Geotechnical logging of all diamond core consisted of recording core recovery, RQDs, number of fractures, core state (i.e., whole, broken) and hardness. In addition, nine diamond holes (BRWD0026-0034) were drilled specifically for geotechnical purposes and were logged by both NTU geologists and external consultants. Samples were also selected for destructive testing.

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Criteria	JORC Code explanation	Commentary
		• This detail is considered common industry practice and is at the appropriate level of detail to support mineralisation studies.
	• *Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.*	• Logging was qualitative in nature except for the determination of core recoveries and geotechnical criteria such as RQD and fracture frequency which was quantitative. Core photos were collected by geologists for all diamond drilling to aid geological interpretation.
	• *The total length and percentage of the relevant intersections logged.*	• All recovered intervals from drill holes were geologically logged in full.
Sub-sampling techniques and sample preparation	• *If core, whether cut or sawn and whether quarter, half or all cores taken.*	• Diamond core was cut in half using an electric core saw. Sample intervals were marked on the core by the responsible geologist considering lithological and structural features, together with indicative results from handheld XRF measurements. • Core selected for duplicate analysis was further cut to quarter core with both quarters submitted individually for analysis. Where possible, core was sampled to leave the orientation line in the core tray. • Half and quarter core is retained. • Where whole core intervals were submitted for geotechnical testing, the returned intervals were submitted in their entirety for ICP-MS assay.
	• *If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.*	• RC samples were collected from the full recovered interval by either riffle splitting or using a static cone splitter. The majority of samples were collected dry with a minor number being moist due to ground conditions or excessive dust suppression. Samples were split without drying.
	• *For all sample types, the nature, quality, and appropriateness of the sample preparation technique.*	• The sample preparation techniques employed for the samples follow industry standard practice at Intertek Genalysis Laboratory. Samples are oven dried, crushed if required and pulverised prior to a pulp packet being removed for analysis. • Sample sizes are considered appropriate to correctly represent the mineralisation based on the style of mineralisation, the thickness and consistency of the intersections, the sampling methodology, and assay value ranges.
	• *Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.*	• Field QAQC procedures included the field insertion of certified reference materials (standards) having a range of values reflecting the general spread of values observed in the mineralisation. • Drilling prior to July 2012 did not include the insertion of standards, as suitable materials were not sourced. • Blanks were also inserted in the field and developed from local host rock following chemical analysis.

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Criteria	JORC Code explanation	Commentary
		• Field duplicates were collected by either a second sample off the splitter (RC) or by quarter core samples of the original half core sample (diamond) and separate submission and analysis at the laboratory. • Insertion rates targeted 1:20 for duplicates, blanks, and standards, with increased frequency in mineralised zones.
	• *Measures taken to ensure that the sampling is representative of the in-situ material collected, including for instance results for field duplicate/second-half sampling.*	• Field duplicates were regularly taken from RC samples at Wolverine. 519 duplicates were available. Similarly, duplicate analysis was performed on diamond core, where two quarter cores over the same interval were independently assayed. For diamond core samples, 634 pairs were available. • Insertion rates for RC and diamond core targeted 1:20 for field duplicates, with increased frequency in mineralized zones.
	• *Whether sample sizes are appropriate to the grain size of the material being sampled.*	• Sample sizes are appropriate for the grain size of the material being sampled.
Quality of assay data and laboratory tests	• *The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.*	• Samples assayed by Genalysis for rare earth elements were fused with sodium peroxide within a nickel crucible and dissolved with hydrochloric acid for analysis. Fusion digestion ensures complete dissolution of the refractory minerals such as xenotime, which are only partially dissolved if the pulp is digested in acids. The digestion solution, suitably diluted, is analysed by ICP Mass Spectroscopy (ICP-MS) for the determination of the REE (La – Lu) plus Y, Th and U.
	• *For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.*	• Northern Minerals extensively uses portable X-ray fluorescence (pXRF) technology. In the field a series of Niton (XL3T-950 GOLDD+) and Olympus Vanta XRF handheld tools were used to assist with the identification of mineralised zones for sample collection and submission. A reading time of 30 seconds was used, with readings taken for every metre of RC drilling. Intervals for which readings returned yttrium (Y) of 200 ppm or greater were selected for analysis, as were a selection of sub 200 ppm yttrium samples. These pXRF readings are designated as “Field pXRF”. • Since 2014, samples submitted for analysis at Genalysis have been analysed by pXRF following the standard laboratory preparation, i.e., drying, splitting, pulverisation. Yttrium was analysed using an Olympus InnovX Delta Premium, with a 30 second reading time. Cerium was analysed using a Niton (XL3T-950 GOLDD+), 30 second reading time. • For drilling completed between 2014 and 2017, only samples selected on the basis of laboratory pXRF results (+1000 ppm), or of geological interest, have

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		then been progressed to full analysis via ICP-MS and/or ICP-OES. The remaining samples individual rare earth element values were assigned from pXRF (Niton and Olympus) from laboratory prepared pulp residues. • Where pXRF analysis from pulp residues were used in the Mineral Resource estimates, the final rare earth element values were assigned from the raw analysis using correlation studies upon samples for which both pXRF and ICP-MS were available. Rare Earth Oxide derived from pXRF instruments contributes less than 1% of the contained Rare Earth Oxide in the total Mineral Resource estimate. • In the absence of ICP-MS or pXRF data from pulp residues, Field pXRF readings have been set to zero for the resource estimation.
	• *Nature of quality control procedures adopted (e.g., standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e., lack of bias) and precision have been established.*	• Certified reference materials, using values across the range of mineralisation, were inserted randomly. • Insertion rates targeted 1:20 for duplicates, blanks, and standards, with increased frequency in mineralised zones. • Results highlight that sample assay values are suitably accurate and unbiased. Blanks were inserted in the field and developed from local host rock following chemical analysis. • Laboratory QAQC involves the use of internal lab standards using certified reference material, blanks, splits, and replicates as part of the in-house procedures. • Umpire laboratory campaigns are used to routinely conduct round robin analysis. Results of round robin analysis are acceptable. • Certified reference materials demonstrate that sample assay values are accurate.
Verification of sampling and assaying	• *The verification of significant intersections by either independent or alternative company personnel.* • *The use of twinned holes.*	• Diamond drill core photographs have been reviewed for the recorded sample intervals. High range values are routinely resubmitted for repeat analysis with results comparing within acceptable limits. • Six twinned holes, Diamond to RC, have been conducted with results being comparable and acceptable.
	• *Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.*	• Earlier primary data (2011) was collected using paper logs and transferred into Excel spreadsheets for transfer into the drill hole database. Since early 2012, primary data was collected into a proprietary logging package (OCRIS) with in-built validation. Details were extracted and pre-processed prior to loading. • In 2011 and 2012 data was managed and stored off site using acQuire software. Since 2013, Datashed has been used as the database storage and management software and incorporates numerous data validation and integrity checks, using a series of

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		defined data loading tools. Data is stored on a SQL server by Northern Minerals Ltd subject to electronic backup. • All data was checked by the responsible geologist and digitally transferred to Perth for loading to the database.
	• *Discuss any adjustment to assay data.*	• The assay data were converted from reported elemental assays for a range of elements to the equivalent oxide compound as applicable to rare earth oxides. Oxide calculations are completed by the laboratory and checked by Northern Minerals. • No issues were identified. The oxides were calculated from the element according to the following factors below: CeO_2 –1.2284, Dy_2O_3 – 1.1477, Er_2O_3 – 1.1435, Eu_2O_3 – 1.1579, Gd_2O_3 – 1.1526, Ho_2O_3 – 1.1455, La_2O_3 – 1.1728, Lu_2O_3 – 1.1371, Nd_2O_3 – 1.1664, Pr_6O_{11} – 1.2082, Sm_2O_3 – 1.1596, Tb_4O_7 – 1.1421, Tm_2O_3 – 1.1421, Y_2O_3 – 1.2699, Yb_2O_3 – 1.1387
Location of data points	• *Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.* •	• Drill collar locations have been surveyed with a high accuracy KGPS receiver with an accuracy of +/- 0.02 metres. • Collars were surveyed GPS by a suitably qualified independent surveying contractor in 2013, and since 2014 by trained NTU staff. • Down hole surveys were completed by the drilling contractor using an AXIS Champ gyroscope survey tool at the time of drilling.
	• *Specification of the grid system used.*	• The grid system used is MGA94 Zone 52. All reported coordinates are referenced to this grid.
	• *Quality and adequacy of topographic control.*	• Topographic surfaces were prepared from LIDAR survey data collected in 2013. Ground control was established by contract surveyors. Accuracy is considered to be better than 20cm.
Data spacing and distribution	• *Data spacing for reporting of Exploration Results.*	• Drilling of the Wolverine deposit has been completed on a nominal 25 m by 25 m in grid spacing although this increases to broader spacing at the lateral extremities of the deposit. Holes were almost routinely collared to UTM grid south at a dip of -60 degrees. The spacing of down hole intercepts of the mineralisation varies from the nominal collar spacing due to deviation of drill holes.
	• *Whether the data spacing, and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation*	• The Data spacing, and distribution, is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource estimate. • The classifications applied and reported throughout this document incorporate drill hole spacing and

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	procedure(s) and classifications applied	other factors in the relative confidence levels communicated in the Mineral Resource estimate.
	• *Whether sample compositing has been applied*	• No sample compositing applied prior to laboratory analysis.
Orientation of data in relation to geological structure	• *Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.*	• The mineralisation is interpreted to be a steeply dipping, roughly planar feature striking approximately east west and dipping at 75 degrees to the north. Resource drilling is exclusively conducted at -60 degrees to the south and as such drill holes intersect the mineralisation at acceptable angles. As such the orientation of drilling is not likely to introduce a sampling bias.
	• *If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.*	• Current knowledge indicates that the orientation of drilling with respect to overall structural and lithological trends is not expected to introduce any sampling bias.
Sample security	• *The measures taken to ensure sample security.*	• Chain of custody is managed by NTU. • Samples are collected on site under supervision of a responsible geologist and stored in bulk bags on site prior to transport by company truck or utility to Halls Creek commercial transport yard. The samples were stored in a secure area until loaded and delivered to Genalysis Laboratory in Perth. Laboratory dispatch sheets are completed and forwarded electronically as well as being placed within the samples transported. Dispatch sheets are compared against received samples and discrepancies reported and corrected.
Audits or reviews	• *The results of any audits or reviews of sampling techniques and data.*	• Internal review, by the competent person, of the data integrity and consistency of the drill hole database shows sufficient quality to support resource estimation.

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SECTION 2: REPORTING OF EXPLORATION RESULTS

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	• *Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.* • *The security of the tenure held at the time of reporting along with any known impediments to obtaining a license to operate in the area.*	• The Wolverine Deposit is located on Mining License M80/627. • The tenement is located within the company's Browns Range Project approximately 145 kilometres south-east of Halls Creek and adjacent to the Northern Territory border in the Tanami Desert. • Northern Minerals owns 100% of all mineral rights on the tenement. • The fully determined Jaru Native Title Claim is registered over the Browns Range Project area and the fully determined Tjurabalan claim is located in the south of the project area. • The tenements are in good standing and no known impediments exist.
Exploration done by other parties	• *Acknowledgment and appraisal of exploration by other parties.*	• No previous systematic exploration for REE mineralisation has been completed by other parties prior to Northern Minerals at Browns Range. Regional exploration for uranium mineralisation was completed in the 1980s without success
Geology	• *Deposit type, geological setting, and style of mineralisation.*	• The Browns Range deposits including Wolverine are unconformity related HREE style deposits. They are located on the western side of the Browns Range Dome, a Paleoproterozoic dome formed by a granitic core intruding the Paleoproterozoic Browns Range Metamorphics (meta-arkoses, feldspathic meta-sandstones, and schists) and an Archaean orthogneiss and schist unit to the south. The dome and its aureole of metamorphics are surrounded by the Mesoproterozoic Gardiner Sandstone (Birrindudu Group). The Browns Range xenotime mineralisation is typically hosted in hydrothermal quartz and hematite veins and breccias within the meta-arkoses of the Archaean Browns Range Metamorphics. Various alteration styles and intensities have been observed; namely silicification, sericitization and kaolinite alteration.

Drill hole information	• *A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes:*
	  ◦ *easting and northing of the drill hole collar*
	  ◦ *elevation or RL (Reduced Level – elevation above sea*
		• Exploration Results are not being reported.
		• All relevant drill data has been publicly released by the company on the ASX in prior announcements.

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	level in metres) of the drill hole collar • *dip and azimuth of the hole* • *down hole length and interception depth* • *hole length* • *If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.*	
Data aggregation methods	• *In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g., cutting of high grades) and cut-off grades are usually Material and should be stated.* • *Where aggregate intercepts incorporate short lengths of high-grade results and longer lengths of low-grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.* • *The assumptions used for any reporting of metal equivalent values should be clearly stated.*	• Exploration Results are not being reported. • All relevant drill data has been publicly released by the company on the ASX in prior announcements.
Relationship between mineralisation widths and intercept lengths	• *These relationships are particularly important in the reporting of Exploration Results.* • *If the geometry of the mineralisation with respect to the drill hole*	• Exploration Results are not being reported. • All relevant drill data has been publicly released by the company on the ASX in prior announcements.

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	angle is known, its nature should be reported. • *If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (e.g., 'down hole length, true width not known').*	
Diagrams	• *Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported. These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.*	• Exploration Results are not being reported. • All relevant drill data has been publicly released by the company on the ASX in prior announcements. • Relevant diagrams for the resource have been included within the main body this ASX release.
Balanced Reporting	• *Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.* • *Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.*	• Exploration Results are not being reported. • Previous exploration results are the subject of previous reports. The results of all drill holes have been reported. Where holes were not reported with significant intercepts there were no significant results.
Other substantive exploration data	• *Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples - size and method of treatment; metallurgical test results; bulk density, groundwater,*	• At Browns Range Project WA, airborne magnetic and radiometric surveys were acquired by Northern Minerals in 2011 and 2023. Hyperspectral data captured during October 2012 by Hy vista Corporation Pty Ltd. Very high resolution "Ultracam" aerial photography was captured by Hyvista during the Hyperspectral survey. • Regional reconnaissance including geological mapping, rock chip sampling and also geochemical soil sampling completed over all the prospects reported herein. Ground based radiometric surveys were also completed. • Several Mineral Resource estimates have been

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	geotechnical and rock characteristics; potential deleterious or contaminating substances.	completed for the Wolverine deposit between 2012 and 2023. • Comprehensive metallurgical test work has been undertaken since 2010 allowing the successful development of a process flowsheet incorporating beneficiation and hydrometallurgy circuits. A trial mine and pilot plant operation, including ore extracted from Wolverine, was undertaken between 2017 and 2022 to demonstrate proof of concept of the flowsheet and de-risk the project. • Geotechnical studies by external consultants have been undertaken on diamond core from Wolverine between 2013 and 2023 in support of mine planning for open pit and underground operations.
Further work	• *The nature and scale of planned further work (e.g. tests for lateral extensions or depth extensions or large- scale step-out drilling).* • *Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.*	• Relevant diagrams have been included within the main body of this ASX release indicating potential for mineralisation extension in the down plunge orientation.

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SECTION 3: ESTIMATION AND REPORTING OF MINERAL RESOURCES

Criteria	JORC Code explanation	Commentary
Database integrity	*Measures taken to ensure that data has not been corrupted by, for example, transcription or keying errors, between its initial collection and its use for Mineral Resource estimation purposes.*	• The drilling database for the Wolverine Project is maintained by Northern Minerals Ltd (NTU). Database inputs were logged electronically at the drill site. The collar metrics, assay, lithology and downhole survey interval tables were uploaded manually then checked and validated by NTU personnel. • 2011 drilling was logged onto paper and transferred to a digital form for loading into the drill hole database. To cut validation time and errors, from 2012, logging was completed directly onto a laptop in the field using a proprietary geological logging package with in-built validation. All data transfer is electronic, with no double handling of data. Sample numbers are unique. Logging and survey information was reviewed by the responsible geologist prior to final load into the database. The data is stored in a single database for the Browns Range project.
	Data validation procedures used.	• The first validation starts at the field logging package during data entry. Data validations are routinely run prior to uploading of data to the database. Many check routines and rules are run to ensure referential integrity, such as overlapping intervals, repeat sample IDs, out of range density measurements, survey azimuth deviations >10 degrees, drill hole dip deviations >5 degrees, and missing samples have been developed firstly using AcQuire (2011-12) and then in Datashed (2013 onwards). Internal validations are completed when data is loaded into spatial software for geological interpretation and resource estimation. This was routinely completed for the Browns Range dataset(s). Outlier assays are routinely checked via QAQC reports automated from the database and followed up by the responsible geologist. This is completed by checking standards, blanks, and duplicate data. • The drill hole data is considered suitable for underpinning Mineral Resource estimation of global rare earth oxide tonnes and incorporated drilling results available up to and including 22 July 2024. • For this MRE, database checks included the following: • Checking for duplicate drill hole names and duplicate coordinates in the collar table.

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		• Checking for missing drill holes in the collar, survey, assay, and geology tables based on drill hole names. • Checking for survey inconsistencies including dips and azimuths <0˚, dips >90˚, azimuths >360˚, and negative depth values. • Checking for inconsistencies in the 'From' and 'To' fields of the assay and geology tables. The inconsistency checks included the identification of negative values, overlapping intervals, duplicate intervals, gaps, and intervals where the 'From' value is greater than the 'To' value. • Adding an end of hole (EOH) survey by copying the last known survey downhole to the EOH.
Site visits	*Comment on any site visits undertaken by the Competent Person and the outcome of those visits.*	• The Competent Person, Mr Dale Richards, is a full-time employee of Northern Minerals and conducts regular site visits to the Browns Range project, including the Wolverine deposit. • The latest site visit was conducted during September 2024. During the visit, Standard Operating Procedures were reviewed. • No material issues or risks pertaining to the MRE update were identified, observed, or documented during the visit.
	If no site visits have been undertaken indicate why this is the case.	Not applicable – site visits have been undertaken as described above.

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Criteria	JORC Code explanation	Commentary
Geological interpretation	*Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.*	• The Browns Range REE mineralisation is one of only a few hydrothermal xenotime mineralisation styles documented globally. Detailed mapping, structural, alteration and mineralisation studies have been completed by NTU geologists and contracted specialists between 2011 and 2014. These data and close spaced drilling, generally <25 m, has led to a good understanding of mineralisation controls. The REE mineralisation is hosted by approximately east-west striking structures and veins, within a coarse sedimentary package on the western side of the regionally extensive Browns Range Dome. This is a feature seen within the Browns Range Mineral Resources at Wolverine, Gambit, Gambit West, Area 5, Cyclops, and Banshee localities. Breccia and quartz vein structures are mappable and can be followed with confidence under transported cover using geochemistry and step-out drilling. There is associated sericite-hematite-silica alteration. The geological work is continually being refined. Currently, spectral, dating, geochemical, microprobe and fluid inclusion work are underway, coordinated by external research institutions.
	Nature of the data used and of any assumptions made.	• Geological data used for interpretation was gathered from drilling with detailed geological core logging and associated assay data. • Interpretation of the main mineralisation zone was largely based on the geometry of the bounding faults, the Capybara and Hamster Faults, and truncated to the east by Kurts Cut-Off Fault. This zone is defined by breccia logging, structural modelling, and a nominal total rare earth oxide (TREO) grade of 150 ppm.
	The effect, if any, of alternative interpretations on Mineral Resource estimation.	• The structural framework that defines the main mineralisation zone at Wolverine is well understood. Modelling of controls on REE distribution throughout the zone has been defined and can potentially be further refined in future using whole rock geochemistry or mineralogy. • The accuracy of the geological interpretation has been improved through the 2024 refinement of the structural model with new drilling data. This has not materially changed the interpretation.

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Criteria	JORC Code explanation	Commentary
	The use of geology in guiding and controlling Mineral Resource estimation. *The factors affecting continuity both of grade and geology.*	• Interpretation of the main mineralisation zone was largely based on the geometry of the bounding faults, the Capybara and Hamster Faults, and truncated to the east by Kurts Cut-Off Fault. This zone is defined by breccia logging, structural modelling, and a nominal total rare earth oxide (TREO) grade of 150 ppm. • Within this zone six different, breccia styles (polymict + xenotime, hematite, sericite, quartz, generic monomict and unbrecciated) were modelled using hierarchical indicator radial basis function (RBF) models based on brecciation intensity within the main mineralised zone. • Sub-ordinate, sub-parallel hanging wall (four) and footwall (two) domains were defined by breccia logging and a nominal total rare earth oxide (TREO) grade of 150 ppm. • To the west, the lateral extent and orientation of these lithologies is limited by logging data. • In hanging wall sub-horizontal sedimentary units, low-grade, strata bound domains (11) were modelled where anomalous TREO grades were present. • Geological observation has underpinned the resource estimation and geological model. Rock type, alteration style, degree of brecciation, intensity of alteration, structural measurements and geochemistry were used to define the footwall and hanging wall boundaries. The geological model was developed as an iterative process of checking against logging, photography and relogging core/rock chips as needed during interpretation. The extents of the geological model were constrained by drilling. Geological boundaries had only minimal extrapolation beyond drilling, but not beyond nominal sample spacing, in line with the resource classification criteria and as appropriate for this style of mineralisation for Indicated or Inferred. • Key factors that are likely to affect the continuity of grade are: the inherent variability of brecciated rocks. The breccia rock characteristics can change rapidly from centimetre to metre scale, and since the deposit is structurally hosted, there is also inherent disruption of continuity by faulting at different scales.

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Criteria	JORC Code explanation	Commentary
Dimensions	*The extent and variability of the Mineral Resource expressed as length (along strike or otherwise), plan width, and depth below surface to the upper and lower limits of the Mineral Resource.*	• The main mineralised structure at Wolverine extends approximately 650 m in strike (east to west), up to 44 m across strike and from surface to -250 mRL (approximately 700 m down dip). Within this zone the bulk of the economic mineralisation has a strike extent of 200 m to 350 m.
Estimation and modelling techniques	*The nature and appropriateness of the estimation technique(s) applied and key assumptions, including treatment of extreme grade values, domaining, interpolation parameters and maximum distance of extrapolation from data points. If a computer assisted estimation method was chosen include a description of computer software and parameters used.*	• Interpretations of domain continuity were undertaken in Leapfrog Geo™ software. The mineralisation intercepts correlating to individual domains were manually selected prior to creating vein models using Leapfrog Geo™ implicit modelling software. • Breccia domains were generated in Leapfrog Geo™ using a hierarchical indicator radial basis function (RBF) models based on brecciation intensity within the main mineralised zone. • Sample data were composited to a 1 m downhole length using a best fit method. Residual composite lengths (0.0 m – 0.5m) were reviewed for metal loss against the raw samples, and a residual length of 0.4 m was decided upon, whereby composites less than 0.4 m long were discarded. Generally, under 1% of metal was lost per REE, per domain. • Top-caps were applied prior to block grade estimation. • Exploratory Data Analysis (EDA) and variography analysis of the capped and declustered, composited REE variables was carried out within individual breccia domains on representative elements for each rare earth grouping, i.e., Yttrium (HREE), Europium (MREE) and Cerium (LREE). Analysis of these representative elements was then compared against the other elements in that group and adjusted to best fit if required. Any individual element that did not fit within a group was analysed and estimated separately. • The unbrecciated domain and sub-ordinate hanging wall and footwall domains showed relational similarities, underpinned by observed spatial and statistical analysis. The hanging wall and footwall domains had EDA outcomes applied from the unbrecciated domain. • All EDA was completed in Supervisor™ software and exported for further visual and graphical review.

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		• An Ordinary Kriging (OK) interpolation approach in Datamine Studio RM™ was selected for all domains within the main breccia and subordinate hanging wall and footwall domains. Subhorizontal, strata-bound hanging wall domains were estimated with an Inverse Distance Squared (ID2) approach. Based on contact analysis and an understanding of the diffuse boundary between the breccia styles, a soft boundary was used between breccia types for estimation. All other estimates used domain boundaries as hard boundaries for grade estimation where only composite samples within that domain are used to estimate blocks coded as falling within that domain. • Estimation parameters, including estimate block size and search neighbourhoods, were derived through Kriging Neighbourhood Analysis (KNA). • Following variography analysis, a variety of separate untransformed, log and normal scores variogram spherical, anisotropic models were applied to rare earth groups and individual domains and domain groups as noted above. Nugget values ranged from 0.03 to 0.32. Sill + nugget of the first variogram structure ranged from 0.18 to 0.75 with ranges of 13 m to 100 m. The second variogram structure had ranges from 31 m to 454 m.
	The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.	• A check estimate was undertaken for all domains and REE's using inverse distance squared. The check estimate results were, on average, 2.8% lower in metal content across REE's and domains. • Previous estimate, announced in 2022 did not include infill and extensional drilling down dip, drilled between 2022 and 2024. • Reconciliation reports on the data from the trial pit which operated from 15 July 2017 through to 26 November 2017 between mined material and block model demonstrates good confidence – 2.5 rel.% difference.
	The assumptions made regarding recovery of by-products.	• No assumptions have been made regarding by-products.

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	Estimation of deleterious elements or other non-grade variables of economic significance (e.g. sulphur for acid mine drainage characterisation).	• In addition to the rare earth elements, aluminium, arsenic, barium, calcium, iron, lithium, magnesium, phosphorus, potassium, sulphur, scandium, silicon, thorium, and uranium were estimated.
	In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.	• Interpolation of rare earth elements was undertaken using Ordinary Kriging (OK) in Datamine Studio RM™ within parent cell blocks. Dimensions for the interpolation were X: 10 mE, Y: 5 mN, Z: 5 mRL, with sub-celling of X: 2.50 mE, Y: 1.25 mN, Z: 1.25 mRL. Considerations relating to appropriate block size include drill hole data spacing, conceptual mining method, variogram continuity ranges and search neighbourhood optimisations (QKNA). • RC, RCDD and DD data were used in the MRE. The average drill spacing ranges from 10 m to 50 m, with a nominal 25 m spacing maintained for all classified domains. • Given that the deposit is well drilled (nominal 25 m drill spacing), a three-pass estimation search strategy was employed. Search ranges varied by domain and by rare earth element grouping (LREE, MREE, HREE), from 70 m – 460 m. Sub-horizontal hanging wall domains were estimated with no anisotropy and a range of 1,000 m. For the first pass a minimum of 6 samples were used and a maximum of 10 to 16. The second and third passes dropped the minimum samples required to 4 and 2, respectively, for all domains.
	Any assumptions behind modelling of selective mining units.	• Not applicable – no assumptions have been made.
	Any assumptions about correlation between variables	• Rare earth elements were investigated for correlation within breccia domains. Yttrium and MHREE showed strong correlation (> 0.95), likewise Cerium and the other LREE. This relationship was utilised in geostatistical analysis. Where a REE did not correlate well with Y or Ce it was treated separately for geostatistical purposes

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	Description of how the geological interpretation was used to control the resource estimates.	• Within the breccia domains in the main mineralisation zone, boundaries between domains were treated as a soft boundary (i.e., domain 1003 utilised composites from domains 1002 and 1004) due to the lack of a hard boundary between breccia types and the implicit modelling technique used to define these domains. All other domains in the hanging wall and footwall had hard boundaries applied for estimation purposes. • Digital terrain models (DTMs) were prepared for cover sediments. • Weathering surfaces and volumes for transported, oxidised, transition and fresh zones were updated for the estimate.
	Discussion of basis for using or not using grade cutting or capping.	• The top capping analysis and application looked at rare earth groupings within individual domains (sub-ordinate footwall and hanging wall domains were grouped for this analysis). Care was taken to ensure that the samples capped were the same for each element and any element that did not align with other elements in the group was treated separately for top capping and subsequent EDA and estimation.
	The process of validation, the checking process used, the comparison of model data to drillhole data, and use of reconciliation data if available.	• Validation of the estimation outcomes was completed by global and local bias analysis (swath plots), and statistical and visual comparison (cross and long sections) with input data.
Moisture	*Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.*	• The density was measured on air dried core in the field, with one in 20 samples checked externally by Genalysis Laboratory, Perth. • The moisture content in mineralisation is considered low. • Tonnage was estimated on a dry basis.
Cut-off parameters	*The basis of the adopted cut-off grade(s) or quality parameters applied.*	• The resource cut-off grade has been calculated using benchmarked commodity pricing, and cost data from the in-progress feasibility study. The calculated COG has been evaluated considering the proposed mining method. • A nominal grade cut off at 0.15% TREO has been used to report the Mineral Resource at the deposit for both open pit and underground.

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Criteria	JORC Code explanation	Commentary
Mining factors or assumptions	*Assumptions made regarding possible mining methods, minimum mining dimensions and internal (or, if applicable, external) mining dilution. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential mining methods, but the assumptions made regarding mining methods and parameters when estimating Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the mining assumptions made.*	• Feasibility Studies (FS) including mining studies were completed on the Wolverine resource as reported in 2015. • Mining studies were continued internally during 2023 -2024 as part of the in-progress FS update. • Possible mining scenarios considered for this Resource estimate include a combination of conventional open pit and mechanised underground mining techniques, including long hole open stoping and sub level caving mining methods.
Metallurgical factors or assumptions	*The basis for assumptions or predictions regarding metallurgical amenability. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential metallurgical methods, but the assumptions regarding metallurgical treatment processes and parameters made when reporting Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the metallurgical assumptions made.*	• FS level metallurgical studies were completed on the Wolverine resource in 2015. These showed the deposit is amenable to metallurgical recovery and has reasonable prospects for eventual economic extraction. • During 2024, additional Metallurgical testwork was completed with the results confirming the metallurgical recovery and reasonable prospects for eventual economic extraction.

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Environmental factors or assumptions	*Assumptions made regarding possible waste and process residue disposal options. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider the potential environmental impacts of the mining and processing operation. While at this stage the determination of potential environmental impacts, particularly for a greenfields project, may not always be well advanced, the status of early consideration of these potential environmental impacts should be reported. Where these aspects have not been considered this should be reported with an explanation of the environmental assumptions made.*	• The Wolverine deposit is located on Mining License M80/627, with all environmental approvals in place to ensure that there are no known impediments to reporting the MRE.
Bulk density	*Whether assumed or determined. If assumed, the basis for the assumptions. If determined, the method used, whether wet or dry, the frequency of the measurements, the nature, size and representativeness of the samples.*	• Bulk density has been estimated from density measurements carried out on diamond core samples of variable length using the Archimedes method of dry weight versus weight in water. • Field density measurements were completed as a minimum of one in every four metres outside mineralised zones, and one in every two metres within the mineralised zone for diamond core. • The following bulk density mean values were applied in the block model: • Cover and oxide: Main fault breccia 2.49 t/m3, Footwall breccia 2.44 t/m3, Hanging wall breccia 2.44 t/m3, Sub-horizontal bedding 2.44 t/m3, Waste 2.44 t/m3. • Transitional: Main fault breccia 2.59 t/m3, Footwall breccia 2.47 t/m3, Hanging wall breccia 2.50 t/m3, Sub-horizontal bedding 2.47 t/m3, Waste 2.47 t/m3

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		• Fresh: Main fault breccia 2.61 t/m3, Footwall breccia 2.58 t/m3, Hanging wall breccia 2.54 t/m3, Sub-horizontal bedding 2.54 t/m3, Waste 2.54 t/m3
	The bulk density for bulk material must have been measured by methods that adequately account for void spaces (vugs, porosity, etc.), moisture and differences between rock and alteration zones within the deposit.	• Laboratory bulk density measurements are routinely tested. The water immersion method, covering void spaces with clear tape, is appropriate to adequately account for porosity. • The immersion method used on diamond core is an industry standard method that accounts for vugs, porosity, and some void spaces.
	Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.	• An average bulk density based on mineralisation domain, weathering and lithology coding has been assigned for tonnage reporting.
Classification	*The basis for the classification of the Mineral Resources into varying confidence categories.*	• Mineral Resources were classified as Measured, Indicated and Inferred to appropriately represent confidence and risk with respect to data quality, drill hole spacing, geological and grade continuity and mineralisation volumes. Additional considerations were the stage of project assessment, amount of DD drilling undertaken and current understanding of mineralisation controls. • Measured Mineral Resources were defined where a strong level of geological confidence in geometry, continuity and grade was demonstrated, and were identified as areas where: o Blocks were well supported by drill hole data with the average distance to the nearest sample being within 10 m or less. o Estimation quality was considered good, as delineated by kriging efficiency above 0.9. • Indicated Mineral Resources were defined where a moderate level of geological confidence in geometry, continuity and grade was demonstrated, and were identified as areas where: o Blocks were well supported by drill hole data with the average distance to the nearest sample being within 25 m or less. o Estimation quality was considered reasonable, as delineated by kriging efficiency between 0.6 and 0.9.

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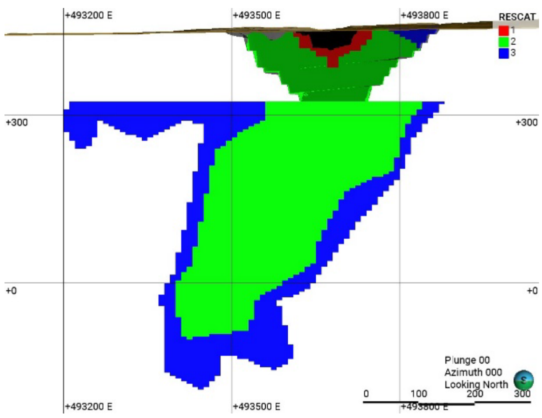
		• Inferred Mineral Resources were defined where a low to moderate level of geological confidence in geometry, continuity and grade was demonstrated, and were identified as areas where:
		  o Blocks were supported by drill hole data with the average distance to the nearest sample being within 50 m or less.
		  o Estimation quality was considered low, as delineated by kriging efficiency below 0.6.
		• The above criteria were used as guidelines, and final block classification was within a boundary that approximated the classification criteria visually. As such, there may be blocks that do not satisfy the above criteria.
		• The reported Mineral Resource for open pit is constrained within the selected FS pit design, and above 0.15% TREO COG.
		• The reported Mineral Resource for underground is reported taking into account possible mechanised mining methods, and 0.15% TREO COG.
		• Resources were reported inside the tenement M80/627.
		• Mineralisation within the model which did not satisfy the criteria for classification as Mineral Resources remained unclassified.
		• Mineralisation classified, but which did not meet the requirements of Reasonable prospect for eventual economic extraction were excluded from the MRE.
		
		
		Image above showing Main zone MRE classification for Open pit (>325mRl) and Underground <325mRl. (No COG applied) Red = measured, Green =indicated, blue = inferred. Grey wireframe = topographic surface. Black wireframe = Pilot plant trial open pit.

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		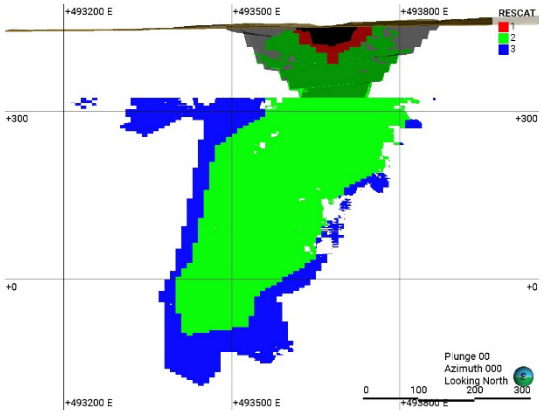 Image above showing Main zone MRE classification for Open pit (>325mRl) and Underground <325mRl. (0.15% TREO COG applied) Red = measured, Green =indicated, blue = inferred. Grey wireframe = topographic surface. Black wireframe = Pilot plant trial open pit.
	Whether appropriate account has been taken of all relevant factors (i.e. relative confidence in tonnage/grade estimations, reliability of input data, confidence in continuity of geology and metal values, quality, quantity and distribution of the data).	• Appropriate account has been taken of relative confidence in tonnage/grade estimations, reliability of input data, confidence in continuity of geology and metal values, quality, quantity, and distribution of the data.
	Whether the result appropriately reflects the Competent Person's view of the deposit.	• The Competent Person believes that the classification applied appropriately reflects the confidence which can be assigned to the grade and tonnages estimates.
Audits or reviews	*The results of any audits or reviews of MREs.*	• The Mineral Resource Estimate (MRE) of global rare earth oxide resources at the Wolverine deposit (as at 22 July 2024) was compiled by Entech Pty Ltd (Entech), under supervision of the Northern Minerals Competent Persons (Kurt Warburton and Dale Richards). • During the compilation process Northern Minerals and Entech engaged in peer review of approaches to domaining, interpolation and classification. Internal data audits and validation processes focused on independent resource tabulation, block model validation and verification of technical inputs.

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		• Entech considers that the MRE is suitable for reporting to the Australasian Code for Reporting of Exploration Results, Minerals Resources and Ore Reserves 2012 (the JORC Code) guidelines and for input into feasibility mining studies. • An Independent audit of the Mineral Resource estimate was conducted by AMC Consultants PTY Ltd (AMC) • AMC considers the Global MRE is suitable for reporting to the Australasian Code for Reporting of Exploration Results, Minerals Resources and Ore Reserves 2012 (the JORC Code) guidelines and for input into feasibility mining studies.
Discussion of relative accuracy/ confidence	*Where appropriate a statement of the relative accuracy and confidence level in the MRE using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the resource within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors that could affect the relative accuracy and confidence of the estimate.*	• The available data supports a combination of Measured, Indicated and Inferred based upon the geological understanding of the deposit, geological and mineralisation continuity, drillhole spacing, search and interpolation parameters and analysis of available density information. • Consideration has been given to all factors that are material to the Mineral Resource outcomes, including but not limited to confidence in volume and grade delineation, quality of data underpinning Mineral Resources, mineralisation continuity and variability of alternate volume interpretations and grade interpolations (sensitivity analysis). • In addition to the above factors, the classification process considered nominal drill hole spacing, estimation quality (number of holes, number of samples, distance to informing samples), specifically. • All factors that have been considered when classifying the Mineral Resource are discussed in Sections 1, 2 and 3 of this table.
	The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used.	• The Mineral Resource Statement relates to global tonnage and grade estimates.

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	These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.	• Campaign production data from the processed component of the Wolverine Trial Pit stockpile volumes are limited, and do not provide adequate volume for production reconciliation studies. The Stockpile Mineral Resource estimate includes volumes extracted from the Wolverine Trial Open Pit and The Gambit West Trial Open Pit.

XXX END XXX

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