NORTHERN MINERALS

New Wolverine assay results available, and commencement of resource drilling program

- The company has now received assays from the residual orebody component of the Wolverine Ore Characterization and Geotechnical Drilling program completed in March 2023[1]
- The assay results represent infill intersections in the Indicated category of the Wolverine Mineral resource estimate[2]
- These results will contribute to improved confidence in structural and mineralisation interpretation, and subsequently inform resource estimate updates.
- New diamond intersection assay results at Wolverine include:
  - BRWD0057: **3.47m @ 7.79%** TREO
  - BRWD0058: **12.77m @ 1.13%** TREO, including.
    - 1.22m @ 1.20% TREO
    - 8.58m @ 1.49% TREO
  - BRWD0062: **11.4m @ 1.34%** TREO
  - BRWD0064: **9.25m @ 1.61%** TREO
    10.28m @ 0.4% TREO
  - BRWT0503: **22.79m @ 0.50%** TREO, including.
    - 9.49m @ 0.52% TREO
    - 10.34m @ 0.62% TREO
- A New Resource Infill-diamond drilling has commenced at Northern Minerals' Wolverine deposit targeting the deeper Inferred Mineral resource included in the Definitive Feasibility Study (DFS) production schedule.
- This directional drilling program is aimed at improving geological confidence and the associated resource classification from the current Inferred to an Indicated category ("the Program")

The Program is partially funded from the grant monies awarded as part of the Federal Governments Critical Minerals Development Program (CMDP) announce in May 2023[3]

[1] ASX Release: 28 April 2023 Quarterly Activities Report: March 2023

[2] ASX Release: 10 Oct 2022: Updated Wolverine Mineral Resource estimate at Browns Range

[3] ASX Release 18 May 2023 - Northern Minerals awarded $5.9m Grant Funding through the Critical Minerals Development Program

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Heavy rare earths developer, Northern Minerals Limited **(ASX: NTU)** (**Northern Minerals**, or the **Company**) is pleased to advise new assay results and the commencement of a new drilling program at Wolverine deposit. Browns Range Heavy REE project is located approximately 145km southeast of the town of Halls Creek, in the Kimberley region of Western Australia. The results relate to ore characterization and geotechnical drilling completed at the Wolverine deposit during Q1 23. The DFS, due for release in Q1 24, will be based on the Wolverine Mineral resource estimate dated Oct 2022. New drill results calculated are shown in the document in Table 1 and at the end of the announcement in Table 2.

Executive Chairman Mr. Nicholas Curtis commented *"The new assay results are encouraging and emphasis the unique nature of the Browns Range system and high-grade opportunities in the area. This allows for the confidence in the development of the Wolverine Orebody within the Browns range system. We are also extremely pleased to have commenced the Wolverine Resource Definition Drilling program and are confident that the results of the Program will add important knowledge to our extensive Wolverine Deposit geological database, and regional geological understanding. The Company was able to progress the Program as a result of the grant monies received from the Federal Government and due to the assistance from our Native Title Partners - The Jaru People who assisted in ensuring required heritage surveys were completed prior to the campaign commencing. The completion of the Program coincides well with the Company's planned FID event in Q2 2024."*

Wolverine Ore Charaterisation and Geotechnical Drilling Program Assay Results

Located on the Companies granted Mining Lease (M80/627), the geology of the project area is dominated by the Browns Range Metamorphics, which are observed as a variable sequence of meta quartz-lithic and arkosic arenites and conglomerates with minor interbedded schists.

Locally, the Wolverine deposit is a structurally controlled, hydrothermal system characterised by the rare earth phosphate mineral xenotime (YPO4). Mineralisation is hosted within a structural brecciated zone, up to approximately 30m in width, trending east west and dipping steeply north.

Xenotime mineralisation is a rich source of dysprosium and other HREE's such as terbium and yttrium. The mineralisation at Wolverine has an exceptionally high HREO to TREO ratio where ~89% of the TREO are heavy rare earths.

The drilling results reported, are from the residual orebody component of an eleven (11) hole diamond drilling program completed in Q1 23 and designed primarily for ore characterization and geotechnical investigation of the rock mass characteristics for the purpose of DFS mining studies.

All drill holes were submitted for ore characterization test work, one (1) of the drill holes, (BHID BRWD0059) was selected for destructive metallurgical test work. The remaining ten (10) drill holes were submitted for geotechnical logging and test work. The whole core intervals selected for geotechnical test work were subsequently submitted for Inductively coupled plasma mass spectrometry (ICP-MS) assay in their entirety. The remaining HQ diameter core was, split, sampled to geological contacts, and half core was submitted for ICP-MS assay technique.

Significant intercepts of the ICP-MS assay results are shown in Table 1 below.

Table 1: Significant Intercepts[1]

HoleID	From	To	Interval	TREO (%)	Dy2O3 (ppm)	Tb4O7 (ppm)	Y2O3 (ppm)
BRWD0057	303.22	306.69	3.47	7.79	7,362	1,021	48,652
BRWD0058	282	283.22	1.22	1.20	1,061	151	7,012
BRWD0058	286.19	294.77	8.58	1.49	1,387	200	9,162
BRWD0058	324.95	328.8	3.85	0.78	681	88	4,442
BRWD0059	Hole submitted for Metallurgical test work – no assay						
BRWD0061	Assays Pending						
BRWD0062	267.6	279	11.4	1.34	918	148	6,184
BRWD0063	224.15	226.3	2.15	1.14	912	146	6,195
BRWD0064	268.1	269	0.9	3.75	3,319	523	23,171
BRWD0064	285	294.25	9.25	1.61	1,286	215	8,949
BRWD0064	319.2	329.48	10.28	0.40	344	48	2,432
BRWD0064	333	333.85	0.85	0.42	312	45	2,193
BRWD0065	341.35	342.32	0.97	1.04	972	117	6,440
BRWD0065	352.29	352.61	0.32	1.47	1,363	188	8,941
BRWD0065	367	368.96	1.96	0.53	433	60	2,923
BRWD0066	351.8	352.26	0.46	0.96	795	110	5,532
BRWD0066	363	366.99	3.99	0.27	125	18	845
BRWD0066	371.2	371.7	0.5	2.34	2,103	298	14,295
BRWD0066	376	377.4	1.4	1.15	1,015	138	6,769
BRWT0503	229.11	238.6	9.49	0.52	448	68	3,008
BRWT0503	241.56	251.9	10.34	0.62	501	77	3,343

1. Significant intercepts (>=2m @ 0.15% TREO or equivalent, with a maximum of 2m continuous internal dilution. No top-cut has been applied by NTU; all widths are downhole lengths.)
2. (TREO – Total Rare Earth Oxides = Sum of La2O3, CeO2, Pr6O11, Nd2O3, Sm2O3, Eu2O3, Gd2O3, Tb4O7, Dy2O3, Ho2O3, Er2O3, Tm2O3, Yb2O3, Lu2O3, Y2O3)

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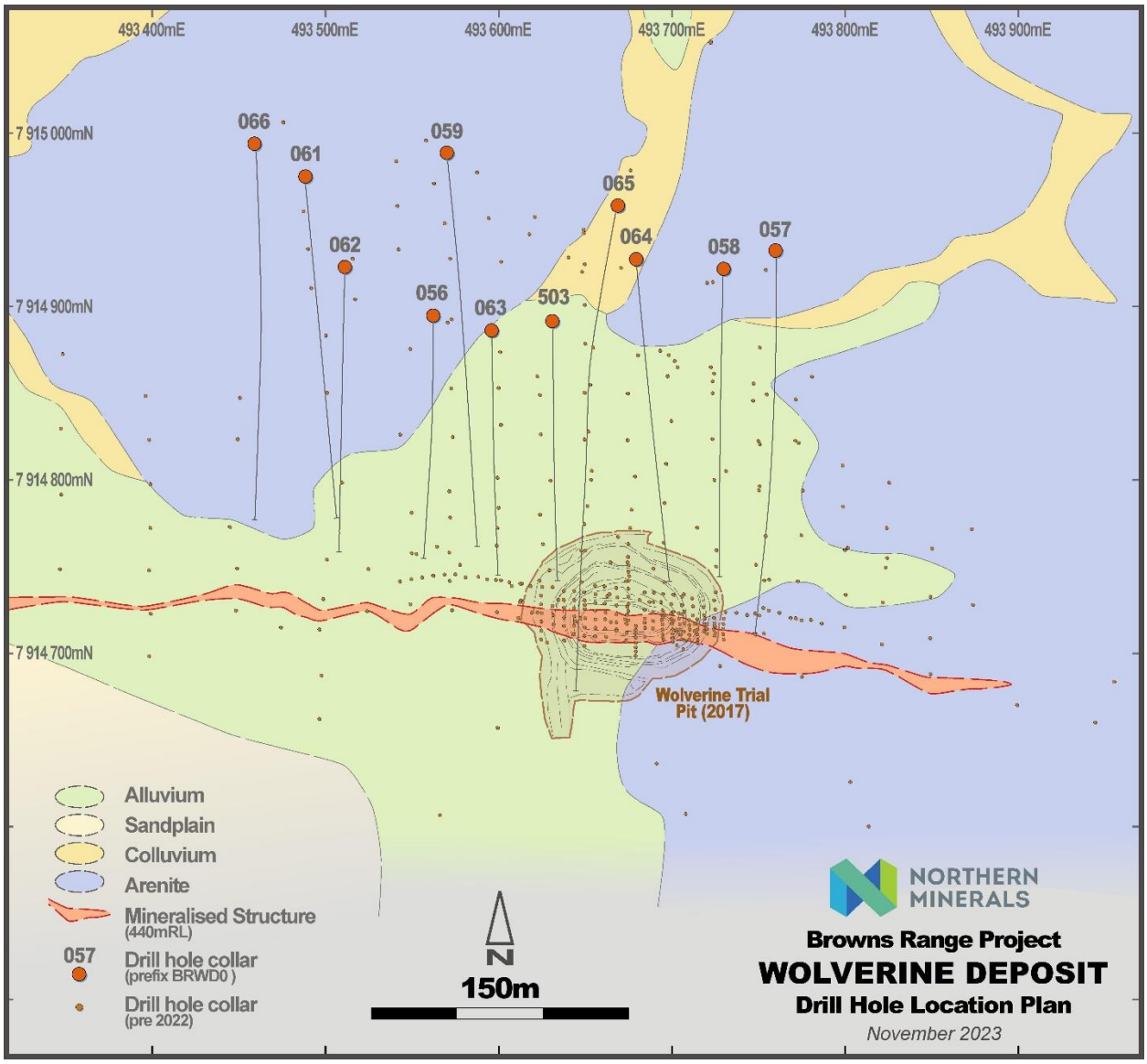

Figure 1: Browns Range HRE Project, Wolverine Deposit, Schematic plan view showing drillhole collar locations at the Wolverine deposit.

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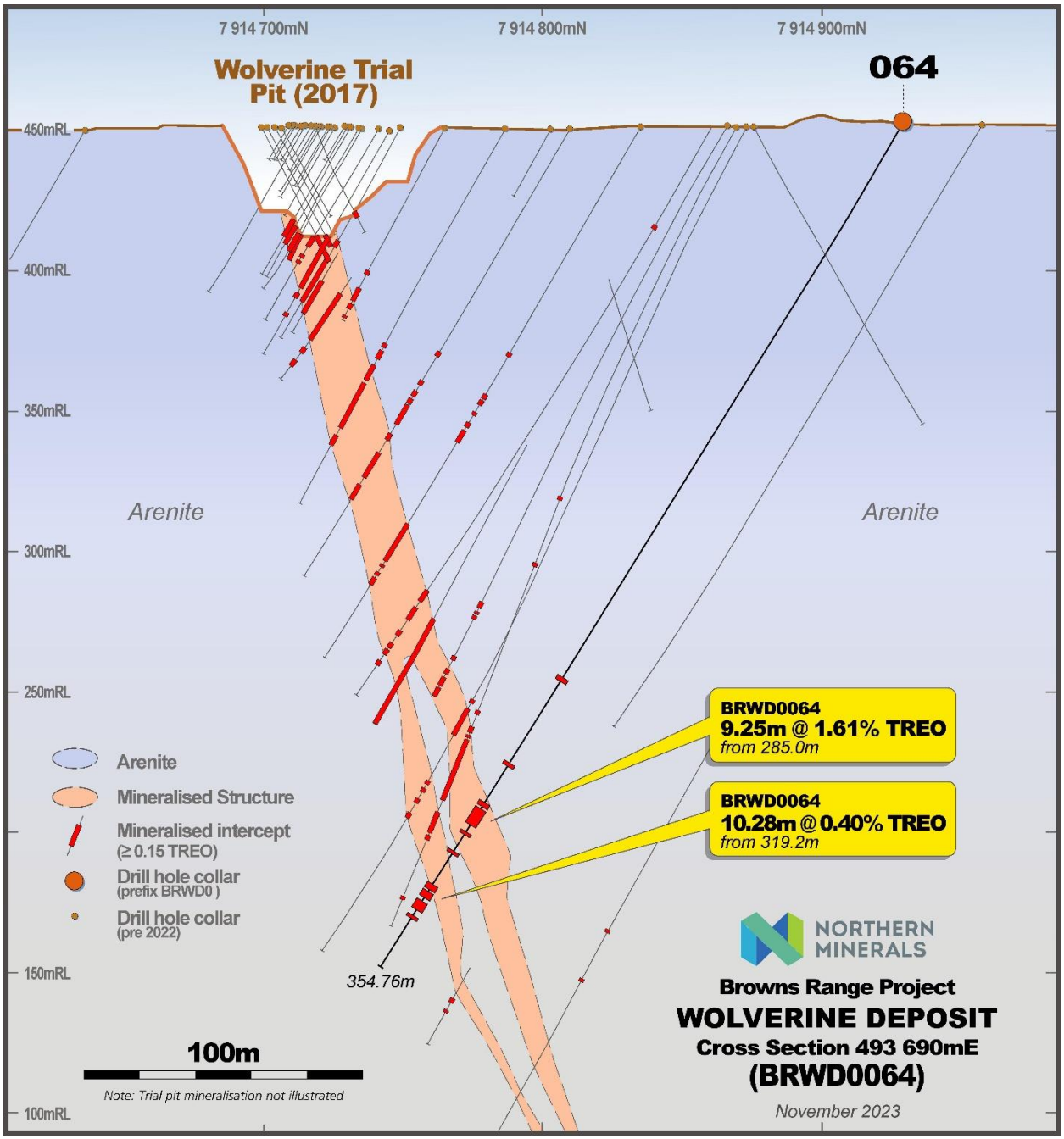

Figure 2: Browns Range HRE Project, Wolverine Deposit, Cross Section facing West along 493690 Easting showing Significant Intercepts of BRWD0064

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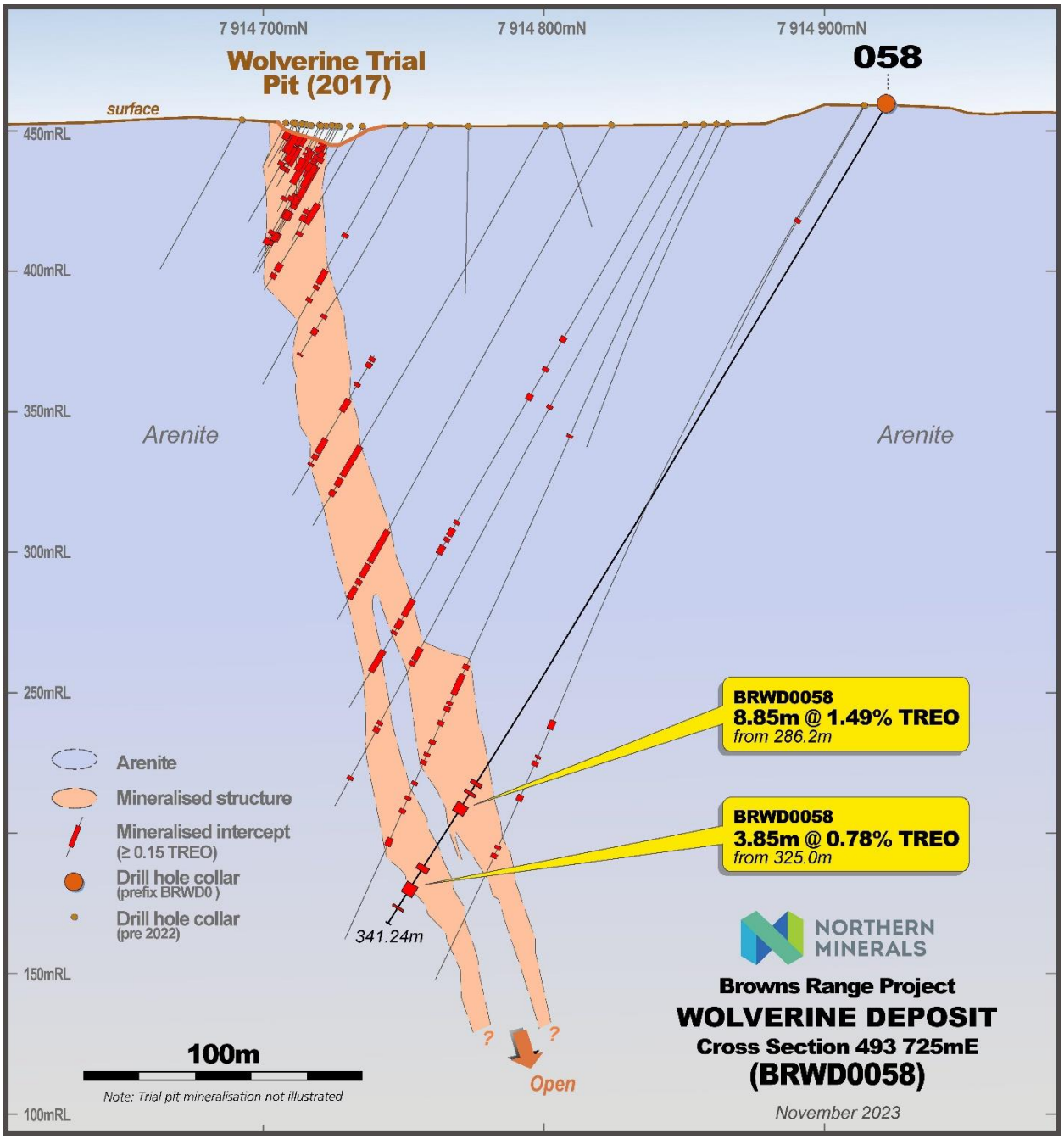

Figure 3: Browns Range HRE Project, Wolverine Deposit, Cross Section facing West along 493725 Easting showing Significant Intercepts of BRWD0058.

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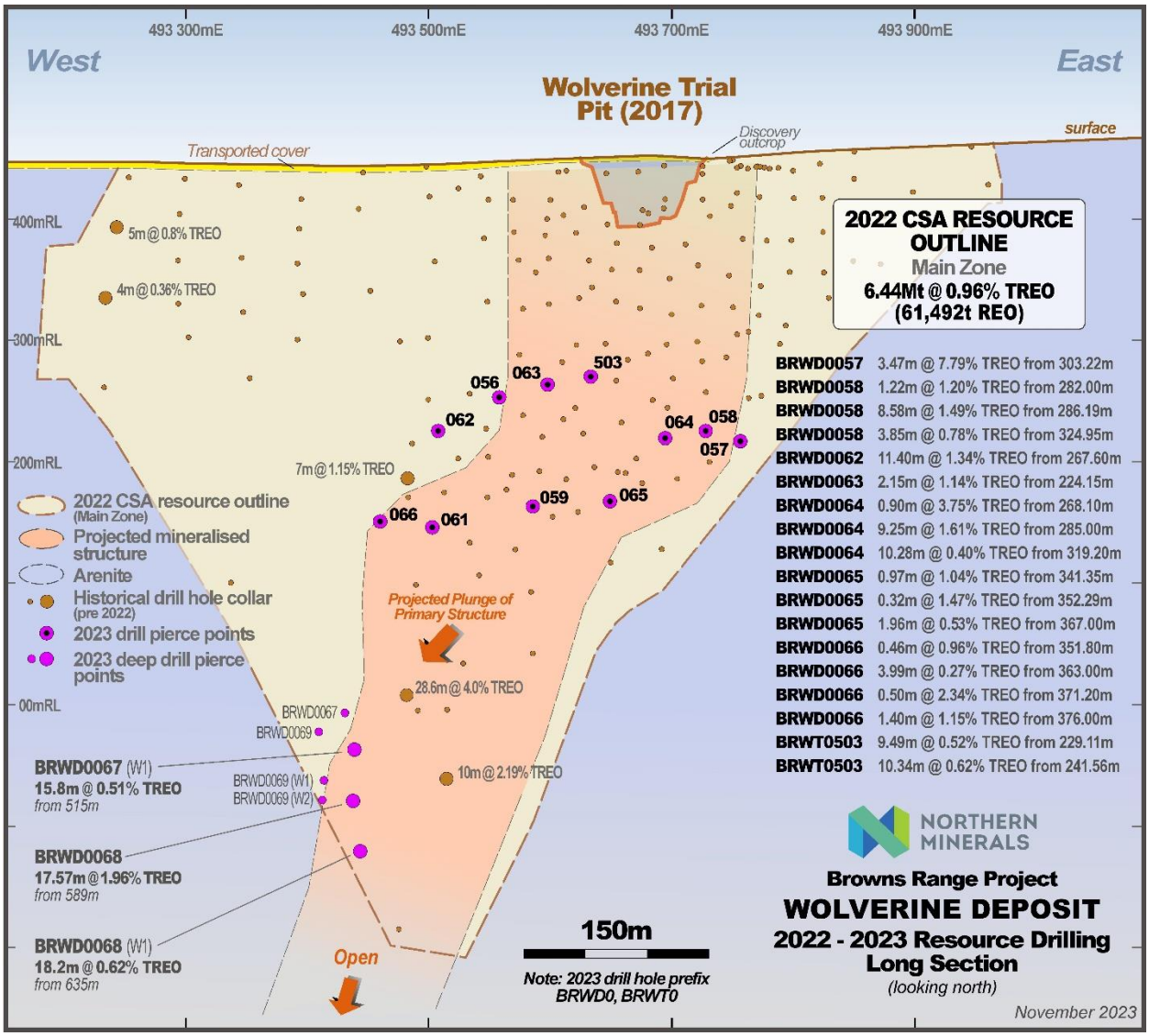

Figure 4: Browns Range HRE Project, Wolverine Deposit, Long Section facing North with Drill Program Intercept Pierce Points

New Co-funded Mineral Resource Definition Drilling Program

The Company is pleased to announce it has commenced a new Resource Definition Drilling Program at its Wolverine Deeps Deposit, with the first drillhole collared in Nov 23.

The Program aims infill drill spacing to a nominal 25m grid, thereby improving geological confidence in future Mineral Resource Estimate updates. The Program targets the deeper Inferred Mineral Resource, aspiring to upgrade the targeted area's geological confidence and convert to an Indicated Resource category. The program is targeting ~1.99Mt @ 1.25% TREO for 24,900t contained TREO. If the Program is successful in converting the Inferred Resource (or part thereof) then this may allow the Indicated Resource to be converted to Probable Reserves through the application of appropriate modifying factors defined under the JORC code for the reporting of Ore Reserve estimates.

The Program's initial design is to drill 24 Parent holes, with 42 descendant holes (66 pierce points at a nominal 25m grid spacing) for a total of approximately 18,000 metres and is expected to be completed during Q2 24. Adjustments to design may be implemented dependent on intersections

and interpretation by the geological team during the Program. Directional drilling is planned for improved accuracy in achieving the planned intercept targets.

Figure 5: Browns Range HRE Project: Wolverine Deposit Resource Definition drilling program November 2023. HOLEID: BRWD0070.

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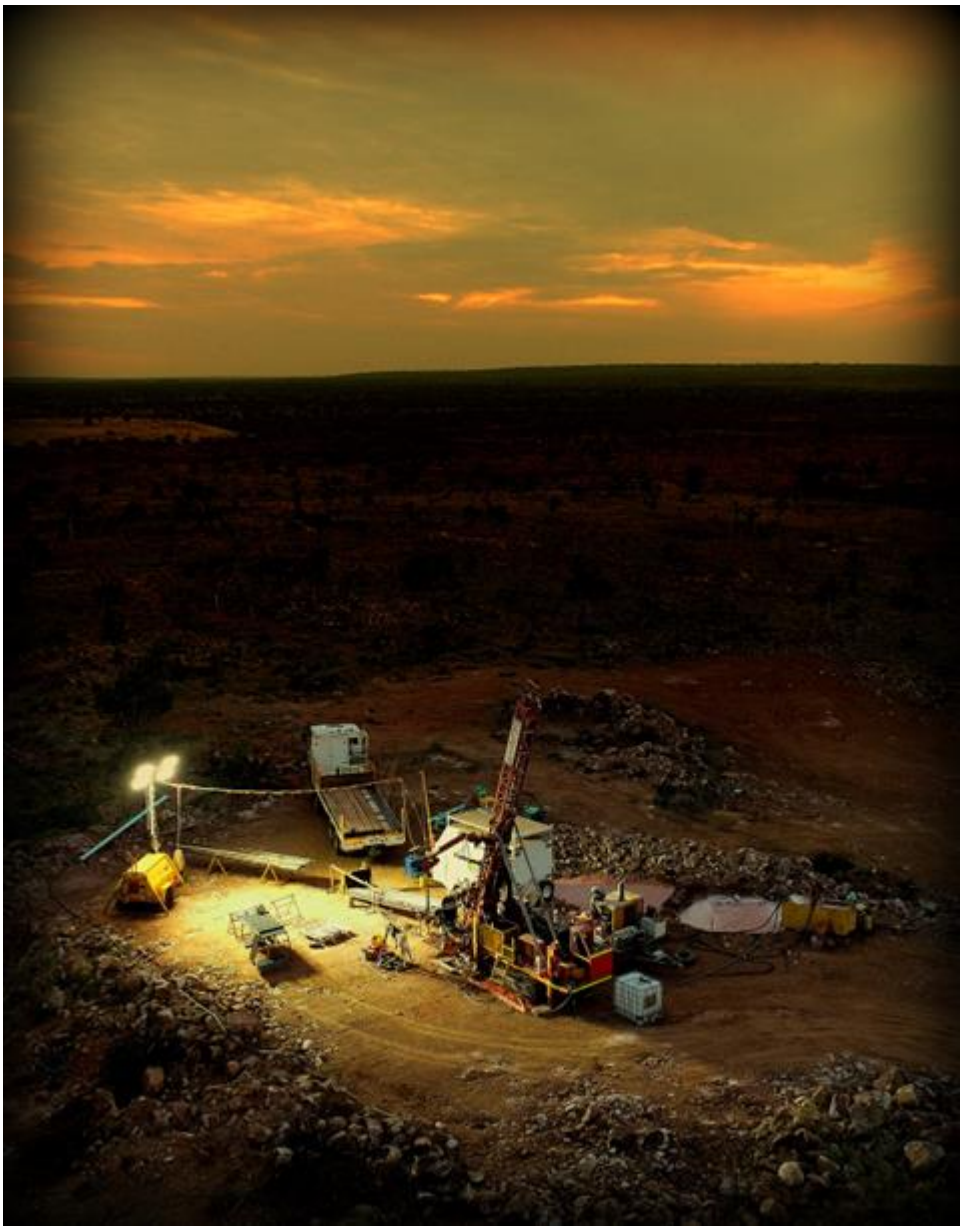

Figure 6: Browns Range HRE Project: Wolverine Deposit Resource Definition drilling program November 2023. HOLEID: BRWD0070.

Compliance Statement

The information in this report relating to Exploration Results was compiled by Mr. Dale Richards who is a Fellow of the Australasian Institute of Mining and Metallurgy. Mr. Richards is a full-time employee of Northern Minerals Limited and has sufficient experience relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves' (the JORC Code). Mr. Richards consents to the inclusion of this information 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 Project (**Project**) in northern Western Australia, tenements uniquely rich in the heavy rare earth elements dysprosium (Dy) and terbium (Tb).

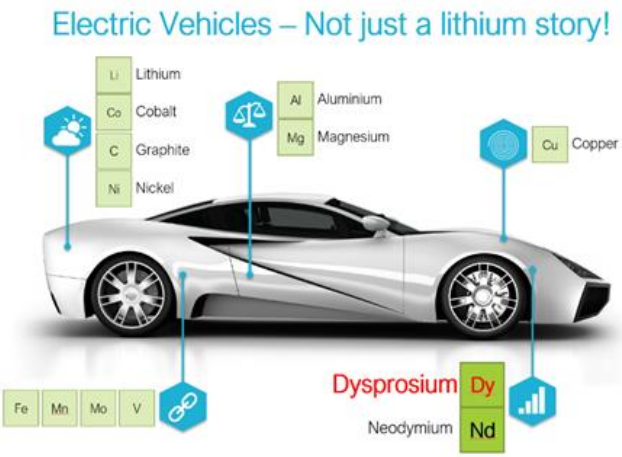
Dysprosium and terbium are critical in the production of dysprosium neodymium iron-boron (DyNdFeB) magnets used in clean energy, military, and high technology solutions. Dysprosium and terbium are prized because their unique properties improve the durability of magnets by increasing their resistance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

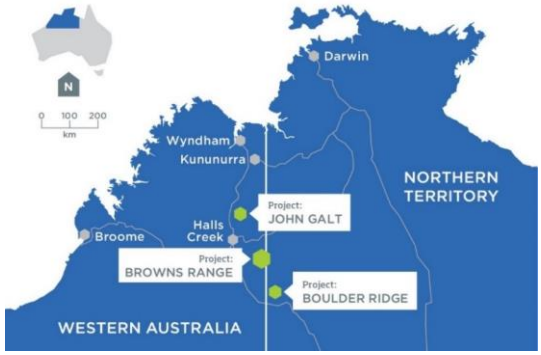
The Project's flagship deposit is Wolverine, which is thought to be the highest-grade dysprosium and terbium orebody in Australia. The Company is preparing to bring Wolverine into production with the objective of providing a reliable alternative source of dysprosium and terbium to production sourced from China. Northern Minerals is one of only a few companies outside of China to have produced these heavy rare earth elements.

To further its strategic objective, Northern Minerals is preparing to undertake a Definitive Feasibility Study for a commercial scale beneficiation plant to process Wolverine ore.

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

For more information: *northernminerals.com.au*.





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Appendix 1: Tables

Table 2: Significant New Intercept results[1]

HoleID	HoleType	X	Y	Z	Depth	Dip	Azimuth	From (m)	To (m)	Length (m)	TREO[2] (%)	TREO (ppm)	Dy2O3 (ppm)
BRWD0056	DD	493563	7914895	452.6	270.8	-60.3	182.2	232.0	233.0	1.00	0.17	1700	12
BRWD0057	DD	493761	7914933	461.3	420.0	-59.0	181.4	303.2	306.7	3.47	7.79	77900	7362
BRWD0058	DD	493731	7914922	459.4	341.2	-59.8	182.2	282.0	283.2	1.22	1.20	12000	1061
BRWD0058	DD	493731	7914922	459.4	341.2	-59.8	182.2	286.2	294.8	8.58	1.49	14900	1387
BRWD0058	DD	493731	7914922	459.4	341.2	-59.8	182.2	317.0	319.0	2.00	0.28	2800	239
BRWD0058	DD	493731	7914922	459.4	341.2	-59.8	182.2	325.0	328.8	3.85	0.78	7800	681
BRWD0059	DD	493570	7914989	4561	411.9	-58.5	177	Hole submitted for Metallurgical test work – no assay					
BRWD0061	DD	493488	7914977	454.2	409.0	-62.8	174.3	Assays Pending					
BRWD0062	DD	493511	7914924	456.1	321.9	-61.1	180.6	267.6	279.0	11.40	1.34	13400	918
BRWD0063	DD	493596	7914886	451.0	270.9	-59.3	180.0	224.2	226.3	2.15	1.14	11400	912
BRWD0063	DD	493596	7914886	451.0	270.9	-59.3	180.0	235.0	236.0	1.00	0.26	2600	219
BRWD0064	DD	493680	7914928	451.9	354.8	-59.3	177.8	232.0	233.0	1.00	0.16	1600	61
BRWD0064	DD	493680	7914928	451.9	354.8	-59.3	177.8	285.0	294.3	9.25	1.61	16100	1286
BRWD0064	DD	493680	7914928	451.9	354.8	-59.3	177.8	297.0	298.0	1.00	0.17	1700	122
BRWD0064	DD	493680	7914928	451.9	354.8	-59.3	177.8	305.0	306.0	1.00	0.19	1900	123
BRWD0064	DD	493680	7914928	451.9	354.8	-59.3	177.8	319.2	329.5	10.28	0.40	4000	344
BRWD0065	DD	493669	7914959	452.1	552.4	-61.8	187.8	318.0	319.0	1.00	0.33	3300	222
BRWD0065	DD	493669	7914959	452.1	552.4	-61.8	187.8	367.0	369.0	1.96	0.53	5300	433
BRWD0065	DD	493669	7914959	452.1	552.4	-61.8	187.8	358.0	359.0	1.00	0.23	2300	182
BRWD0066	DD	493460	7914995	452.7	413.0	-60.5	178.4	363.0	367.0	3.99	0.27	2700	125
BRWD0066	DD	493460	7914995	452.7	413.0	-60.5	178.4	376.0	377.4	1.40	1.15	11500	1015
BRWT0503	DD	493631	7914893	451.0	270.8	-57.0	180.5	229.1	238.6	9.49	0.52	5200	448
BRWT0503	DD	493631	7914893	451.0	270.8	-57.0	180.5	241.6	251.9	10.34	0.62	6200	501

1. Significant intercepts (>=2m @ 0.15% TREO or equivalent, with a maximum of 2m continuous internal dilution. No top-cut has been applied all widths are downhole lengths.)
2. (TREO – Total Rare Earth Oxides = Sum of La2O3, CeO2, Pr6O11, Nd2O3, Sm2O3, Eu2O3, Gd2O3, Tb4O7, Dy2O3, Ho2O3, Er2O3, Tm2O3, Yb2O3, Lu2O3, Y2O3)

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Appendix 2: 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.*	• A total of 11 diamond holes were drilled at the Wolverine deposit and completed during Q1 23. • In the field a portable XRF handheld tool was used to provide a preliminary indication of mineralisation13 A reading time of 30 seconds was used, with spot readings taken. • Zones of geological interest and mineralised zones were identified and marked up to geological contacts by geologists. The 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) holes were angled to intersect the targeted mineralised zones at optimal angles. • The diamond drill holes sampled and assayed were HQ2 or HQ3 sized core. • 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 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.*	• NTU DD holes are sampled over selected geological and mineralisation interval lengths. • Sampling for independent contract laboratory analysis was undertaken at a nominal 1m interval, although geologist's discretion to constrain samples on observed geological intervals is practiced. • NTU samples were submitted to an independent contract laboratory for crushing and pulverising of diamond core samples. • Analysis of the rare earth element suite is conducted using a sodium peroxide fusion digest with Inductively coupled plasma mass spectrometry (ICP-MS)
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 Diamond core was drilled using either HQ2 or HQ3 diameter. Triple tube was only used where fractured ground was encountered to maximise recovery. • Diamond core was orientated using the Reflex ACT orientation tool

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Criteria	JORC Code explanation	Commentary
	oriented and if so, by what method, etc).	
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.
	• *Measures taken to maximise sample recovery and ensure representative nature of the samples.*	• Diamond drilling utilised triple tube techniques and drilling fluids in broken or fractured ground to assist with maximising recoveries. Competent ground was drilled using standard HQ2.
	• *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 predefined lithological, mineralogical, and physical characteristics (such as colour, weathering, fabric) logging codes. • 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
	• *The total length and percentage of the relevant intersections logged.*	• All drill holes were 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.*	• NA

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Criteria	JORC Code explanation	Commentary
	• *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. • Blanks were also inserted in the field and developed from local host rock following chemical analysis. Field duplicates were collected by taking quarter core splits. • Externally prepared Certified Reference Materials were inserted into the sample stream by NTU at a rate of 1:20. • Blanks were inserted into the sample stream by NTU at a rate of 1:20.
	• *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 obtained from quartering the core. Insertion rates targeted 1:20 for duplicates, blanks, and standards, with increased frequency in mineralised zones.
	• *Whether sample sizes are appropriate to the grain size of the material being sampled.*	• The sample is appropriate for the grain size of the material.
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.*	• In the field a portable XRF handheld tool was used to provide a preliminary quantitative indication of mineralisation. A reading time of 30 seconds was used. With diamond core, up to 4-point readings were recorded every metre. Daily checks on the PXRF are completed with the silica blank standard and the TILL-4 yttrium standard checked at the beginning of every sample run.

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Criteria	JORC Code explanation	Commentary
	• *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. • 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.* • *Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.*	PXRF • Analytical data was collected directly by the Niton pXRF and downloaded by digital transfer to an excel sheet with inbuilt QAQC. Diamond Drilling • Primary data was collected into a proprietary logging package (OCRIS) with in-built validation. Details were extracted and pre-processed prior to loading. Datashed is used as the database storage and management software and incorporates numerous data validation and integrity checks, using a series of 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. Datashed is used as the database storage and management software and incorporates numerous data validation and integrity checks using a series of defined data loading tools. Data is stored on a SQL server and electronic backups completed three times per day. • Verification of the database by external Mineral Resource consultant's competent person at CSA Global has been completed and signed, October 2022.
	•	
	• *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: CeO2 –1.2284, Dy2O3 – 1.1477, Er2O3 – 1.1435, Eu2O3 – 1.1579, Gd2O3 – 1.1526, Ho2O3 – 1.1455, La2O3 – 1.1728, Lu2O3 – 1.1371, Nd2O3 – 1.1664, Pr6O11 – 1.2082, Sm2O3 – 1.1596, Tb4O7 – 1.1421, Tm2O3 – 1.1421, Y2O3 – 1.2699, Yb2O3 – 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. Down hole surveys were completed by the drilling contractor using an AXIS Champ gyroscope survey tool at the time of drilling. • The grid system used is MGA94 Zone 52. All reported coordinates are referenced to this grid.

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Criteria	JORC Code explanation	Commentary
	• *Specification of the grid system used.* • *Quality and adequacy of topographic control.*	• Topographic surfaces were prepared by site surveyors from LIDAR surveys.
Data spacing and distribution	• *Data spacing for reporting of Exploration Results.* • *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 procedure(s) and classifications applied.* • *Whether sample compositing has been applied.*	• The program was drilled as a geotechnical program into the indicated Mineral Resource category and as infill to the existing data at a nominal 25m grid spacing. • Data is appropriate for inclusion in Mineral Resource estimates. • No sample compositing applied
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.* • *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.*	• All diamond drilling completed at Wolverine is at an orientation perpendicular to the interpreted structural and/or lithological trend. • Mineralisation at the Wolverine deposit has an east-west strike and dips steeply north. • 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. • Core returned to site after undergoing ore characterisation test work in Perth were inspected by NTU staff prior to cutting and sampling to ensure there was no misplaced or missing core. • Samples are collected on site under supervision of the responsible geologist and stored in bulk bags on site prior to transport to Perth by a commercial transport company. The samples are stored in a secure area until loaded and delivered to the Intertek Genalysis laboratory in Perth.
Audits or reviews	• *The results of any audits or reviews of sampling techniques and data.*	• No audits/reviews have been conducted

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 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, sericitisation 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 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.*
		• See Appendix 1: Table 2 in body of text

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Criteria	JORC Code explanation	Commentary
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.*	• Significant intervals were tabulated downhole for reporting. Each sample interval was analysed using sodium peroxide fusion ICP-MS. All sample intervals were averaged over the entire tabulated range. A lower cut-off of 0.15% TREO was used during data aggregation, allowing for 2m of internal dilution. No top-cuts have been applied. • All intervals were initially based on nominal 1m sample runs but are constrained to geological and mineralisation contacts. The geologist then qualitatively grouped contiguous mineralised runs together and a length weighted average analysis of the entire run is reported here. • No metal equivalents values are used for reporting of exploration results.
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 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').*	• The drilling is designed to intersect at an azimuth approximately perpendicular to the strike of mineralisation. The geometry of mineralisation at the Wolverine Deposit has an east-west strike and dips approximately 75 degrees north. • Drilling Dips and Azimuths are provided in Table 2 • Due to the nature of mineralisation distribution within the targeted structural zone, down hole lengths are reported, true widths not calculated.
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.*	• Relevant diagrams 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.*	• 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.

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Criteria	JORC Code explanation	Commentary
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, geotechnical and rock characteristics; potential deleterious or contaminating substances.*	• At Browns Range Project WA, airborne magnetic and radiometric surveys were acquired by Northern Minerals in 2011. 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 completed for the Wolverine deposit between 2012 and 2022. • 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.*	• Resource definition infill drilling is planned for completion in Q2 24 • Relevant diagrams have been included within the main body this ASX release indicating potential for mineralisation extension in the down plunge orientation