ASX ANNOUNCEMENT
30 May 2024

NORTHERN MINERALS

More exceptional heavy rare earth assays at Wolverine to inform Browns Range Mineral Resource update

- Additional drill intercept assays received from the Mineral Resource definition drilling program at the Wolverine Deposit (Program) continue to define wide and high-grade mineralised intervals across strike and down plunge, with mineralisation remaining open at depth.
- The Program, targeting the Inferred Resource component of Wolverine, is designed to improve the geological confidence and classification in the Browns Range Mineral Resource Estimate (MRE).
- The MRE update is underway and includes results from this Program. The update is scheduled for Q3 and will underpin completion of the Browns Range Definitive Feasibility Study (DFS), targeted for Q4.
- New diamond intersection assay results at Wolverine include:

o BRWD0085W1:	**49.0m @ 2.36%** TREO, from 540.00m
o BRWD0082W2:	**30.2m @ 2.89%** TREO, from 442.00m
o BRWD0083W2:	**29.5m @ 2.86%** TREO, from 419.79m
o BRWD0083:	**25.8m @ 2.37%** TREO, from 406.00m
o BRWD0085:	**13.1m @ 4.35%** TREO, from 496.90m
o BRWD0087W1:	**30.1m @ 1.69%** TREO, from 420.20m
o BRWD0083W1:	**34.0m @ 1.46%** TREO, from 414.00m
o BRWD0087W2A:	**8.87m @ 0.99%** TREO from 438.40m
	31.0m @ 1.28% TREO, from 455.00m
o BRWD0082W1:	**1.98m @ 7.48%** TREO, from 410.00m
	10.0m @ 3.80% TREO, from 419.00m
o BRWD0082:	**10.4m @ 2.80%** TREO, from 405.00m
	12.0m @ 0.94% TREO, from 446.00m

- The Program was partially funded from the grant monies awarded to Northern Minerals as part of the Federal Government's Critical Minerals Development Program[1].

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

Australian heavy rare earths focused company Northern Minerals Limited **(ASX: NTU) (Northern Minerals** or the **Company**) is pleased to advise it has received new assay results from the Mineral Resource definition drilling program at its 100%-owned Browns Range heavy rare earths project, in the East Kimberley region of Western Australia.

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.

The assay results relate to the Mineral Resource definition drilling program (**Program**) at Wolverine, the flagship deposit at Browns Range – during the December, March and June FY24 quarters. New significant intercept drill results are shown in Table 1 and Table 2 (see Appendix 1).

Northern Minerals is on target to update its Minerals Resource Estimate (MRE) by the end of Q3 this year, which will incorporate the results from the Program. The MRE will feed into an updated Definitive Feasibility Study (DFS) for Browns Range that is targeted for completion in Q4.

Northern Minerals Managing Director Shane Hartwig commented:

"These are exceptional assay results from this important Mineral Resource definition drilling program. Both the grade and the apparent widths reported are very encouraging. The team will now incorporate these results into an updated Mineral Resource Estimate for Browns Range with the target to re-classify the majority of the existing Inferred resource at Wolverine into the Indicated classification. In addition to the assays, the drilling program has delivered greater orebody knowledge, particularly assisting in better interpreting the regional geological structural controls which will be invaluable when applied to future exploration drilling campaigns.

"Once completed, this Mineral Resource Estimate will be a key determinant of the ultimate mining and processing shape of the Browns Range Heavy Rare Earths Project and enable the Company to finalise the Definitive Feasibility Study.

"We are extremely proud of the team in completing a safe, uninterrupted and incident free drilling program, particularly in circumstances where the Browns Range site and surrounding infrastructure was severely impacted by unseasonal weather. I would also reiterate our appreciation for the support provided by our Native Title partners, the Jaru People, as well as the Federal Government through its Critical Minerals Development Grant Program.

"I look forward to updating Shareholders as we advance these next, very important work streams for Browns Range."

Wolverine Mineral Resource Definition Drilling Program Assay Results

Introduction

The geology of the Browns Range Project area, located on the Company's granted Mining Lease (M80/627), 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 (YPO_4). Mineralisation is hosted within a structural brecciated zone, up to approximately 30m in true width, trending east west and dipping steeply north.

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

Co-funded Drilling Program

Northern Minerals has received assays for a further 13 drill intersections from the resource definition drill program at the Wolverine deposit (Program), bringing the total intercepts received to 39. The Program is partially funded from the grant monies awarded as part of the Federal Government's Critical Minerals Development Program with the first drillhole collared in November 2023.

The Program's initial design was to drill 66 pierce points (at a nominal 25m grid spacing) for a total of approximately 18,000m. Adjustments to the design based on observations by the geological team resulted in a final revised Program of 42 intersections, for a total of 16,586.86m. Importantly, six drill intersections have been added below the previous maximum planned depth, albeit remaining within the Inferred Mineral Resource target. The drilling component of the Program was completed during May 2024.

At the time of reporting, assay results have been received for 39 intersections, with assays for three intersections pending.

Assays from the previously reported 26 [2] as well as the 13 intersections reported in this announcement today, have confirmed consistent wide and high-grade mineralised intervals across strike and down plunge, with mineralisation remaining open at depth at Wolverine. The drilled intersections provide important information on the short-range variability of mineralisation, both in the focal area of mineralising fluids and towards the periphery of the economically defined mineralisation. This data is essential to improve resource estimation and provides a robust platform for further optimising mining studies.

The deepest drill intersection results from this program received to date, BRWD0085W1, targeted the down plunge mineralisation, and returned an exceptional intercept of 49.0m @ 2.36% TREO from 540m, confirming mineralisation remains open down plunge.

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

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[2] ASX Release: 22 Apr 2024: Exceptionally high-grade rare-earth assays returned over wide mineralised intervals at Wolverine

Table 1: Significant Intercepts [1,2]

Hole ID	From (m)	To (m)	Interval (m)	TREO (%)	Dy2O3 (ppm)	Tb4O7 (ppm)	Y2O3 (ppm)	MHREO: TREO
BRWD0082	405.00	415.35	10.35	2.80	2438.7	368.5	16882	0.87
BRWD0082	428.00	430.00	2.00	0.67	545.6	79.2	3765	0.83
BRWD0082	446.00	458.00	12.00	0.94	848.7	124.6	5696	0.84
BRWD0082W1	410.00	411.98	1.98	7.48	7095.8	1063.7	46718	0.92
BRWD0082W1	419.00	429.00	10.00	3.80	3097.4	466.4	21951	0.78
BRWD0082W1	470.50	473.50	3.00	0.18	130.1	16.8	870	0.60
BRWD0082W1	475.90	477.10	1.20	1.13	1074.7	125.1	6933	0.94
BRWD0082W1	479.50	480.50	1.00	0.42	381.4	47.3	2511	0.89
BRWD0082W1	487.40	488.70	1.30	0.80	579.0	73.7	3864	0.82
BRWD0082W2	442.00	472.21	30.21	2.89	2582.2	362.4	17799	0.83
BRWD0082W2	477.64	480.84	3.20	2.50	2076.8	324.1	14505	0.78
BRWD0082W2	487.00	495.02	8.02	0.36	293.5	45.3	2051	0.69
BRWD0082W2	536.37	538.22	1.85	0.68	636.6	75.7	4186	0.92
BRWD0083	406.00	431.76	25.76	2.37	2195.3	354.0	14695	0.85
BRWD0083	434.18	438.25	4.07	0.76	703.6	102.3	4755	0.92
BRWD0083	442.00	446.27	4.27	0.92	786.8	110.8	5416	0.84
BRWD0083	455.00	460.00	5.00	0.53	413.5	54.3	2948	0.56
BRWD0083W1	414.00	448.00	34.00	1.46	1344.9	205.9	8879	0.78
BRWD0083W2	419.79	449.33	29.54	2.86	2658.2	411.0	17754	0.82
BRWD0083W2	466.00	472.52	6.52	0.16	110.5	15.8	732	0.47
BRWD0083W2	476.00	477.00	1.00	0.58	479.8	66.7	3219	0.83
BRWD0083W2	481.62	486.72	5.10	0.75	650.6	85.2	4357	0.81
BRWD0084	513.36	520.00	6.64	0.66	585.9	81.2	3745	0.79
BRWD0084	538.00	541.28	3.28	4.08	3470.8	458.5	23291	0.54
BRWD0084	546.20	550.84	4.64	0.98	859.1	113.4	5741	0.54
BRWD0084	556.80	559.00	2.20	0.92	774.4	96.6	5153	0.71
BRWD0085	496.90	510.00	13.10	4.35	4159.6	547.3	27397	0.92
BRWD0085	541.00	542.75	1.75	2.25	1977.7	242.1	13237	0.92
BRWD0085W1	540.00	589.00	49.00	2.36	2203.0	310.4	14916	0.77
BRWD0085W1	595.60	600.00	4.40	1.15	1010.9	134.0	7033	0.77
BRWD0085W1	607.82	609.40	1.58	0.44	312.5	46.6	2127	0.73
BRWD0085W1	614.80	620.00	5.20	0.62	439.6	61.5	3092	0.75
BRWD0086	500.70	505.65	4.95	5.51	5234.9	710.8	32995	0.86
BRWD0086	512.00	516.70	4.70	0.30	156.3	20.8	1027	0.48
BRWD0086	523.76	533.00	9.24	1.98	1861.4	230.8	12132	0.87
BRWD0086	535.40	537.00	1.60	1.10	975.0	120.4	6532	0.87

BRWD0087	422.00	426.15	4.15	0.18	126.8	17.6	843	0.70
BRWD0087	443.00	444.00	1.00	1.14	1025.4	134.6	7188	0.94
BRWD0087	446.70	447.50	0.80	17.36	16618.2	2130.7	115315	0.99
BRWD0087W1	420.20	450.29	30.09	1.69	1581.3	233.2	10457	0.85
BRWD0087W1	474.00	477.05	3.05	0.31	189.3	24.7	1325	0.48
BRWD0087W2A	438.40	447.27	8.87	0.99	912.3	118.5	5809	0.81
BRWD0087W2A	455.00	486.00	31.00	1.28	1190.6	190.0	7782	0.82

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 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)

Figure 1 provides a plan view of the drillhole collar locations at the Wolverine deposit and shows holes where assays have been received and where assays are pending. The figure also shows the cross-section locations applied in Figure 2 and Figure 3.

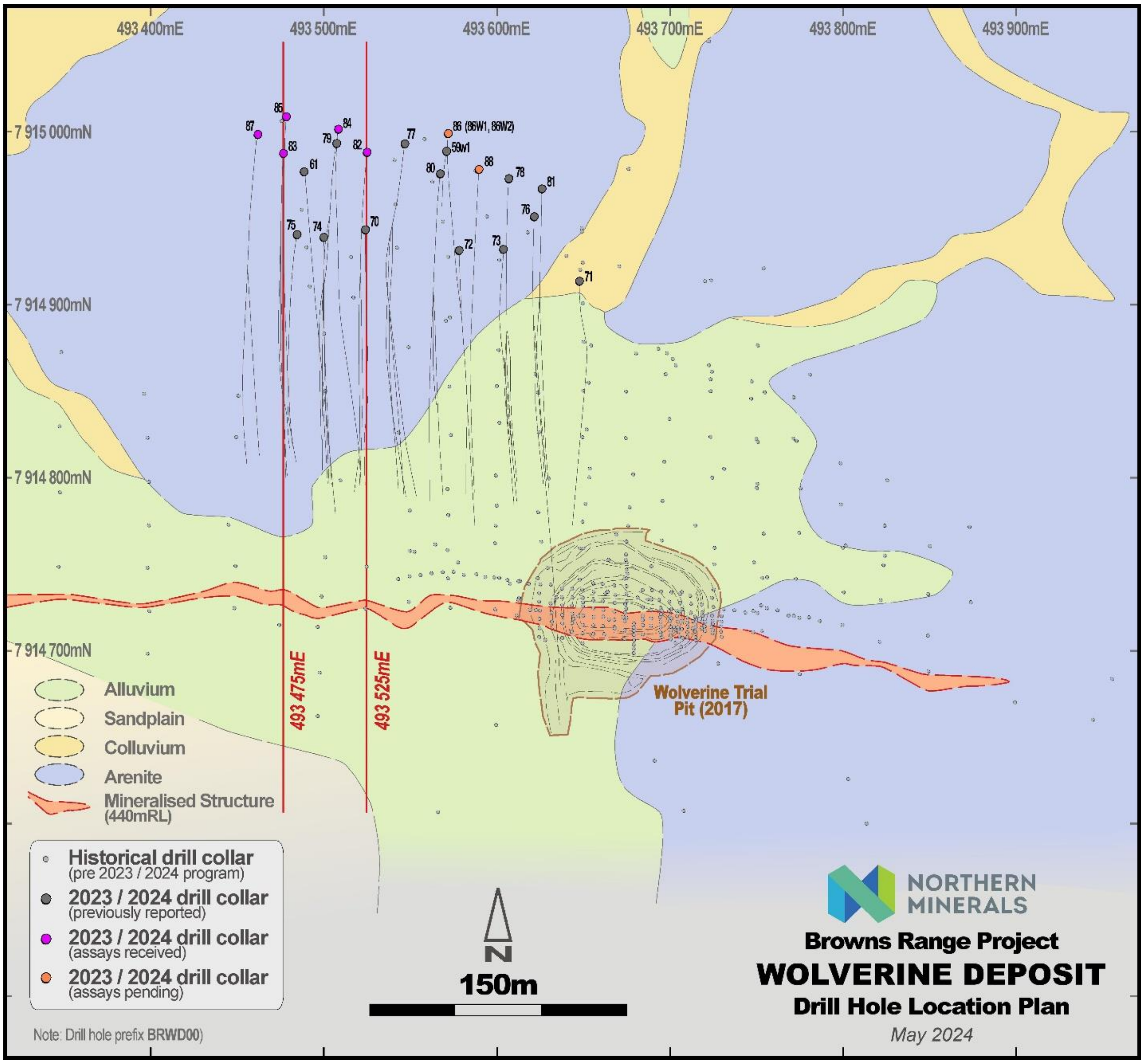

Figure 1: Plan view of drillhole collar locations for drill intercepts reported in the Program

Figure 2 shows significant intercepts in drill holes BRWD0083, BRWD0083W1, BRWD0083W2, BRWD0085 and BRWD0085W1.

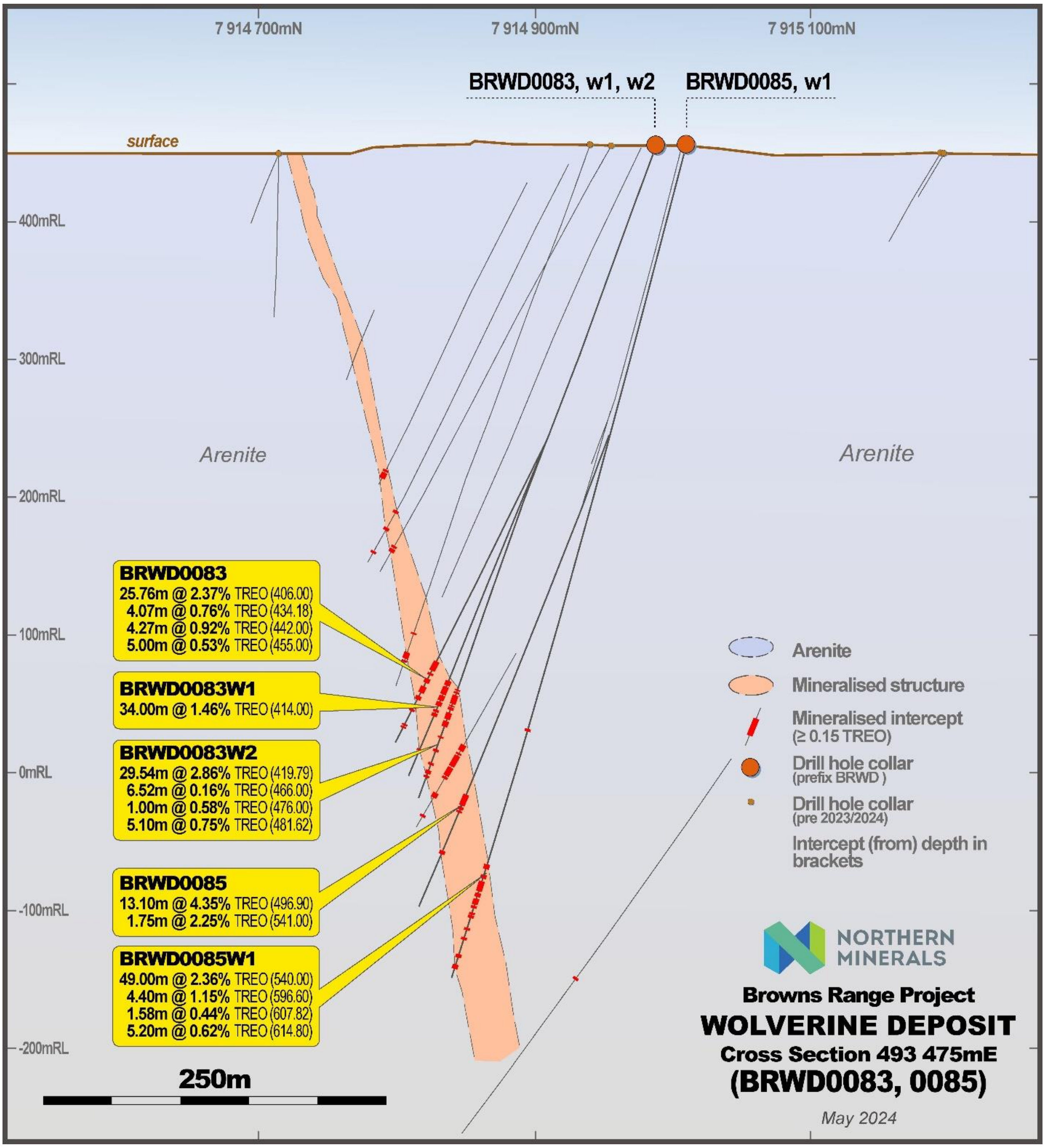

Figure 2: Significant Intercepts in drill holes BRWD0083 BRWD0083W1, BRWD0083W2, and BRWD0085 and daughter holes BRWD0085W1 (cross section facing west along 493475 Easting)

Figure 3 shows significant intercepts in drill holes BRWD0082, and its daughter holes BRWD0082W1 and BRWD0082W2, and BRWD0084.

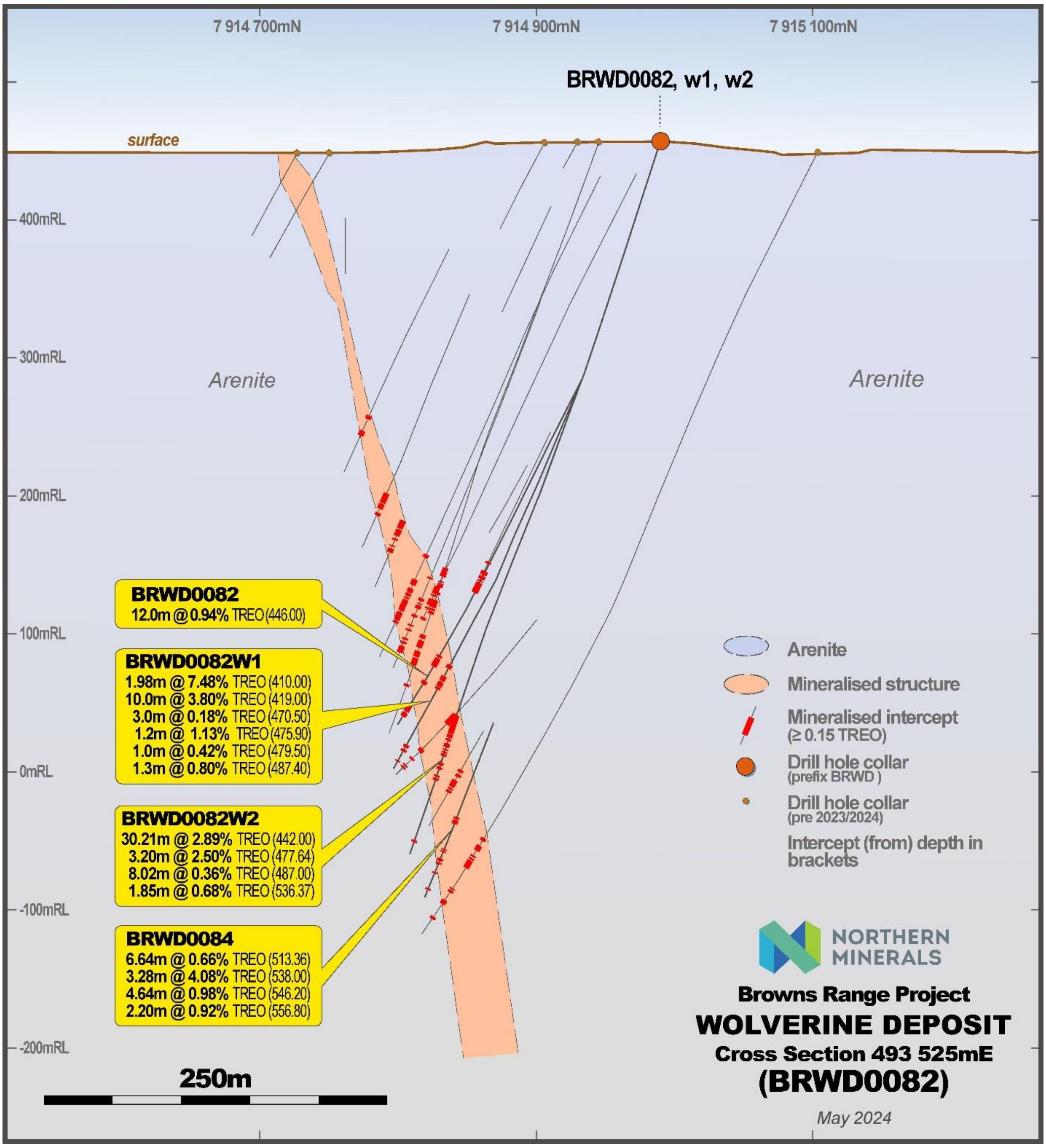

Figure 3: Significant Intercepts in drill holes BRWD0082 BRWD0082W1, BRWD0082W2 and BRWD0084 (cross section facing west along 493525 Easting).

Figure 4 provides a long section of the drillhole pierce point locations at the Wolverine deposit and shows pierce points where assays have been received and where assays are pending.

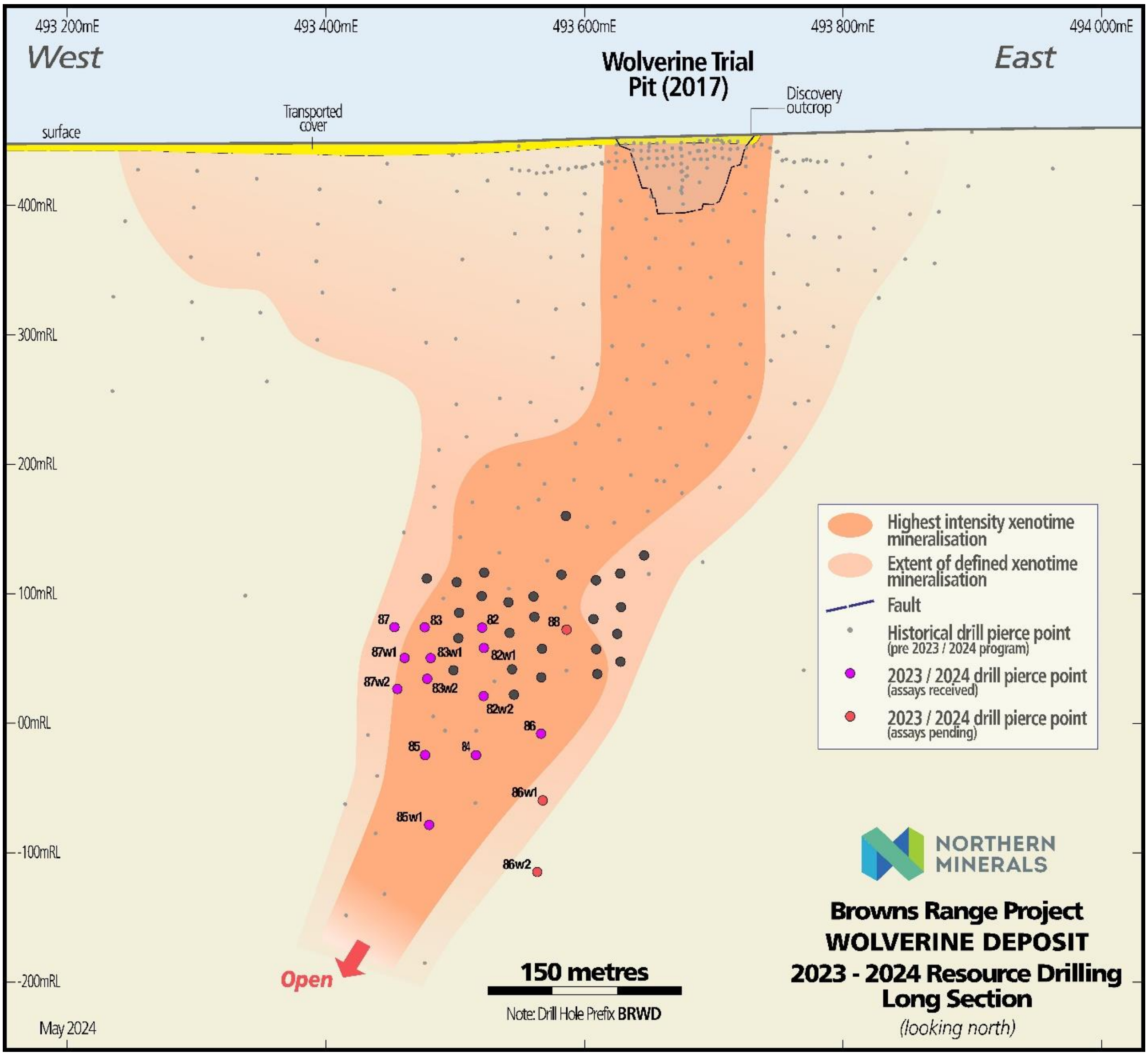

Figure 4: Drill program intercept pierce points (long section facing north)

Structural interpretation

A review of the broader structural framework at Wolverine and its association with xenotime mineralisation has been initiated as part of the framework behind the new structural intensity spatial model. The intersection between the east-west trending Hamster\Capybara Faults with the west-northwest, east-southeast trending Kurts Cutoff fault (Figure 5) is interpreted as the primary control on hydrothermal xenotime. In this interpretation, pre-mineralisation breccias developed along Kurt Cutoff fault underwent brittle deformation during the xenotime mineralising event, resulting in higher intensity deformation and brecciation at this intersection point and the formation of a higher-grade xenotime core. Post mineralisation movement along the Hamster/Capybara faults may have modified the original orebody emplacement.

Detailed structural data analysis of the quartz xenotime breccia (Figure 5) is ongoing and includes refinement to the new deformation intensity spatial model through standardised logging of all historical diamond drill holes. This is intended to define deformation intensity domains as a control on hydrothermal mineralising fluids and xenotime mineralisation.

In the regional exploration context, this new structural association model, will improve exploration targeting across the Browns Range Dome prospective tenements in Western Australia and the Northern Territory.

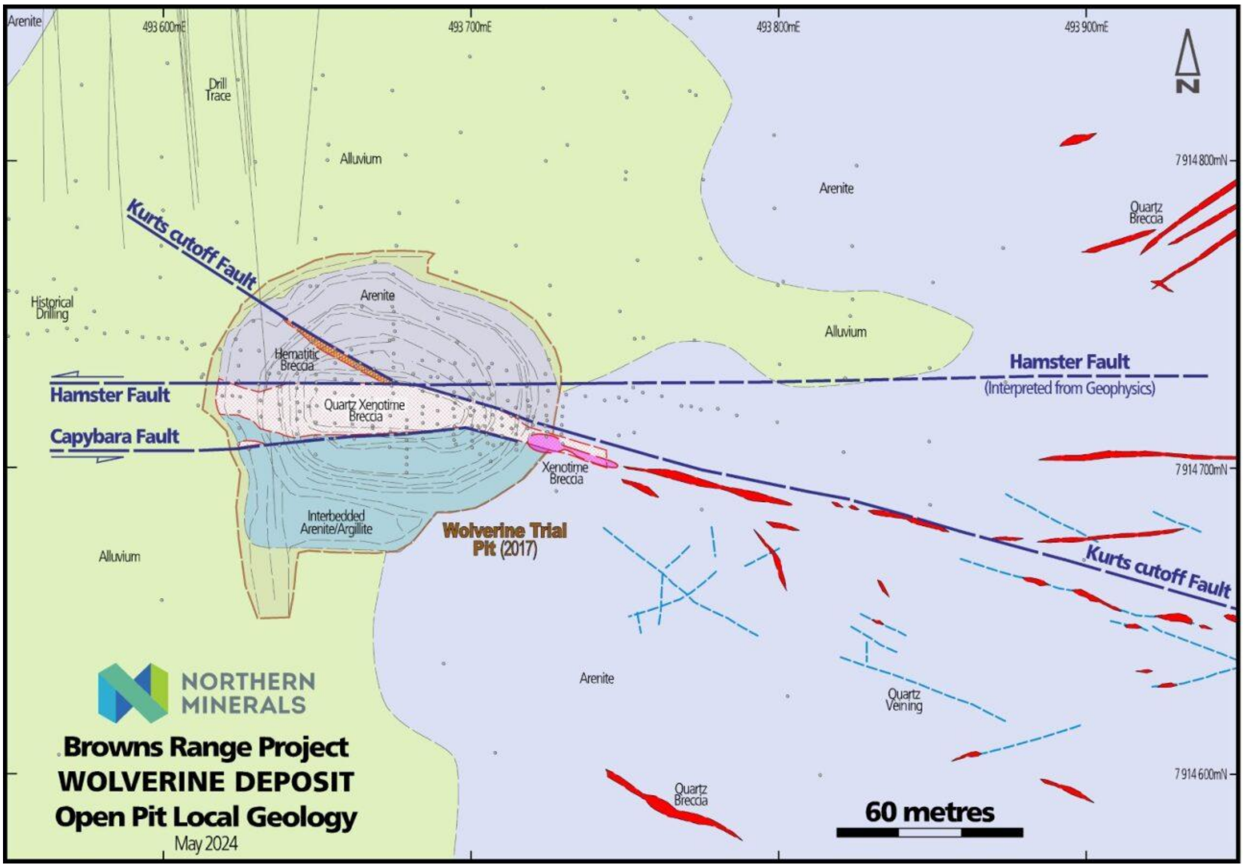

Figure 5: Wolverine deposit geology from field and pit mapping.

Figure 6: Wolverine deposit Mineral Resource definition drilling in May 2024

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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Appendix 1: Tables

Table 2: Significant New Intercept results[1]

HoleID	HoleType	X	Y	Z	Depth	Dip	Azimuth	From	To	Interval	TREO (%)	Dy2O3 (ppm)	Tb4O7 (ppm)	Y2O3 (ppm)
BRWD0082	DD	493524.453	7914988.485	456.699	465.44	-71.89	185.07	405	415.35	10.35	2.8	2438.68	368.46	16882
BRWD0082	DD	493524.453	7914988.485	456.699	465.44	-71.89	185.07	428	430	2	0.67	545.55	79.2	3765
BRWD0082	DD	493524.453	7914988.485	456.699	465.44	-71.89	185.07	446	458	12	0.94	848.66	124.6	5696
BRWD0082W1	DD	493524.453	7914988.485	456.699	496.1	-71.89	185.07	410	411.98	1.98	7.48	7095.83	1063.65	46718
BRWD0082W1	DD	493524.453	7914988.485	456.699	496.1	-71.89	185.07	419	429	10	3.8	3097.44	466.35	21951
BRWD0082W1	DD	493524.453	7914988.485	456.699	496.1	-71.89	185.07	470.5	473.5	3	0.18	130.11	16.78	870
BRWD0082W1	DD	493524.453	7914988.485	456.699	496.1	-71.89	185.07	475.9	477.1	1.2	1.13	1074.7	125.1	6933
BRWD0082W1	DD	493524.453	7914988.485	456.699	496.1	-71.89	185.07	479.5	480.5	1	0.42	381.4	47.3	2511
BRWD0082W1	DD	493524.453	7914988.485	456.699	496.1	-71.89	185.07	487.4	488.7	1.3	0.8	578.97	73.67	3864
BRWD0082W2	DD	493524.453	7914988.485	456.699	547.67	-71.89	185.07	442	472.21	30.21	2.89	2582.18	362.41	17799
BRWD0082W2	DD	493524.453	7914988.485	456.699	547.67	-71.89	185.07	477.64	480.84	3.2	2.5	2076.76	324.12	14505
BRWD0082W2	DD	493524.453	7914988.485	456.699	547.67	-71.89	185.07	487	495.02	8.02	0.36	293.52	45.27	2051
BRWD0082W2	DD	493524.453	7914988.485	456.699	547.67	-71.89	185.07	536.37	538.22	1.85	0.68	636.64	75.74	4186
BRWD0083	DD	493476.18	7914987.808	453.656	473.43	-70.64	183.51	406	431.76	25.76	2.37	2195.27	354.03	14695
BRWD0083	DD	493476.18	7914987.808	453.656	473.43	-70.64	183.51	434.18	438.25	4.07	0.76	703.64	102.3	4755
BRWD0083	DD	493476.18	7914987.808	453.656	473.43	-70.64	183.51	442	446.27	4.27	0.92	786.78	110.75	5416
BRWD0083	DD	493476.18	7914987.808	453.656	473.43	-70.64	183.51	455	460	5	0.53	413.5	54.33	2948
BRWD0083W1	DD	493476.18	7914987.808	453.656	491.5	-70.64	183.51	414	448	34	1.46	1344.88	205.89	8879
BRWD0083W2	DD	493476.18	7914987.808	453.656	504.2	-70.64	183.51	419.79	449.33	29.54	2.86	2658.22	410.95	17754
BRWD0083W2	DD	493476.18	7914987.808	453.656	504.2	-70.64	183.51	466	472.52	6.52	0.16	110.5	15.8	732
BRWD0083W2	DD	493476.18	7914987.808	453.656	504.2	-70.64	183.51	476	477	1	0.58	479.8	66.7	3219

BRWD0083W2	DD	493476.18	7914987.808	453.656	504.2	-70.64	183.51	481.62	486.72	5.1	0.75	650.6	85.21	4357
BRWD0084	DD	493507.738	7915001.873	454.767	577.05	-73.63	180.71	513.36	520	6.64	0.66	585.87	81.18	3745
BRWD0084	DD	493507.738	7915001.873	454.767	577.05	-73.63	180.71	538	541.28	3.28	4.08	3470.84	458.46	23291
BRWD0084	DD	493507.738	7915001.873	454.767	577.05	-73.63	180.71	546.2	550.84	4.64	0.98	859.05	113.38	5741
BRWD0084	DD	493507.738	7915001.873	454.767	577.05	-73.63	180.71	556.8	559	2.2	0.92	774.35	96.59	5153
(BRWD0084)	DD	493507.738	7915001.873	454.767	577.05	-73.63	180.71	538	559	21	0.97	818.71	107.52	5485
BRWD0085	DD	493477.97	7915008.978	453.269	585.84	-75.99	184.93	496.9	510	13.1	4.35	4159.63	547.32	27397
BRWD0085	DD	493477.97	7915008.978	453.269	585.84	-75.99	184.93	541	542.75	1.75	2.25	1977.72	242.09	13237
BRWD0085W1	DD	493477.97	7915008.978	453.269	624.5	-75.99	184.93	540	589	49	2.36	2202.98	310.42	14916
BRWD0085W1	DD	493477.97	7915008.978	453.269	624.5	-75.99	184.93	595.6	600	4.4	1.15	1010.86	134.01	7033
BRWD0085W1	DD	493477.97	7915008.978	453.269	624.5	-75.99	184.93	607.82	609.4	1.58	0.44	312.46	46.56	2127
BRWD0085W1	DD	493477.97	7915008.978	453.269	624.5	-75.99	184.93	614.8	620	5.2	0.62	439.56	61.53	3092
BRWD0086	DD	493571.468	7914999.505	456.662	564.7	-78.22	187.29	500.7	505.65	4.95	5.51	5234.89	710.8	32995
BRWD0086	DD	493571.468	7914999.505	456.662	564.7	-78.22	187.29	512	516.7	4.7	0.30	156.26	20.76	1027
BRWD0086	DD	493571.468	7914999.505	456.662	564.7	-78.22	187.29	523.76	533	9.24	1.98	1861.38	230.82	12132
BRWD0086	DD	493571.468	7914999.505	456.662	564.7	-78.22	187.29	535.4	537	1.6	1.1	974.98	120.42	6532
(BRWD0086)	DD	493571.468	7914999.505	456.662	564.7	-78.22	187.29	523.76	537	13.24	1.53	1426.84	176.83	9323
BRWD0086W1	DD	493571.468	7914999.505	456.662	621.7	-78.22	187.29	Assay Results Pending						
BRWD0086W2	DD	493571.468	7914999.505	456.662	688.1	-78.22	187.29	Assay Results Pending						
BRWD0087	DD	493461.31	7914998.583	452.866	464.1	-71.21	185.84	422	426.15	4.15	0.18	126.82	17.57	843
BRWD0087	DD	493461.31	7914998.583	452.866	464.1	-71.21	185.84	443	444	1	1.14	1025.4	134.6	7188
BRWD0087	DD	493461.31	7914998.583	452.866	464.1	-71.21	185.84	446.7	447.5	0.8	17.36	16618.2	2130.7	115315
(BRWD0087)	DD	493461.31	7914998.583	452.866	464.1	-71.21	185.84	439.8	447.5	7.7	2.08	1954.5	250.86	13555
BRWD0087W1	DD	493461.31	7914998.583	452.866	480.6	-71.21	185.84	420.2	450.29	30.09	1.69	1581.31	233.17	10457
BRWD0087W1	DD	493461.31	7914998.583	452.866	371.4	-71.21	185.84	474	477.05	3.05	0.31	189.26	24.67	1325

BRWD0087W2A	DD	493461.31	7914998.583	452.866	507.64	-71.21	185.84	438.4	447.27	8.87	0.99	912.25	118.46	5809
BRWD0087W2A	DD	493461.31	7914998.583	452.866	507.64	-71.21	185.84	455	486	31	1.28	1190.62	189.95	7782
BRWD0088	DD	493590.082	7914977.823	456.773	477.6	-72.02	184.6	Assay Results Pending						

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 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)

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 42 diamond holes, inclusive of daughter holes, have been drilled at the Wolverine deposit during the recently completed resource program. Assay results have been received for the first 39 holes., with results from the first 26 reported to the ASX on the 22 Apr 2024: “Exceptionally high-grade Rare-Earth assays returned over wide mineralised intervals at Wolverine” • In the field a portable XRF handheld tool was used to provide a preliminary indication of mineralisation. A reading time of 10 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 NQ2sized 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-*	• Oriented Diamond core was drilled using either HQ2 or NQ2. Parent holes are collared with HQ, all intercepts through mineralisation were drilled NQ2,. • Diamond core was orientated using the Reflex ACT orientation tool

	sampling bit, or other type, whether core is 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.*	• Competent ground was drilled using standard HQ2. Diamond drilling utilised drilling fluids in broken or fractured ground to assist with maximising recoveries.
	• *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
	• *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.
	• *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*	PXRF • Analytical data was collected directly by the Niton pXRF and downloaded by digital transfer to an excel sheet with inbuilt QAQC.

	personnel. • The use of twinned holes. • Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.	Diamond Drilling • No holes were twinned during this program. • 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
	• *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.* • *Specification of the grid system used.* • *Quality and adequacy of topographic control.*	• 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. • Topographic surfaces were prepared from LIDAR surveys. Ground control was established by contract surveyors.
Location of data points	• *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 resource definition program into the indicated Mineral Resource category and as infill to the existing data at a nominal 25m by 25m grid spacing. • Data is appropriate for inclusion in Mineral Resource estimates. • No sample compositing applied
Data spacing and distribution	• *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*	• 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.

	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.	
Orientation of data in relation to geological structure	• *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.
Sample security	• *The results of any audits or reviews of sampling techniques and data.*	• No audits/reviews have been conducted
Audits or reviews	•	•

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

Criteria	JORC Code explanation	Commentary
	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.*	• 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*	• 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.

Criteria	JORC Code explanation	Commentary
	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.	
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 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 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.*	• Updated resource estimate for Wolverine planned for Q2 2024. • Relevant diagrams have been included within the main body this ASX release indicating potential for mineralisation extension in the down plunge orientation