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ASX ANNOUNCEMENT
27 January 2022

NORTHERN MINERALS

Quarterly Activities Report: December 2021

Highlights

- Review of the strategic direction of the Company to be led by new Chairman Nick Curtis;
- Pause and review of Feasibility Study (FS) while strategic review is undertaken;
- Northern Minerals successfully completed 8,751 metres of RC drilling and 2,047 metres of diamond drilling at Browns Range during the quarter;
- For the full year ending 2021, a total of 17,500 RC metres were drilled and 4,876 m of diamond drilling were completed;
- The first batch of assays received in December demonstrate the prospectivity at Cyclops, Banshee and Rockslider;
- Best results from Rockslider of 103 metres at 0.32% TREO from 15 metres (BRR0560);
- Best assay results from Cyclops of 15.65m @ 1.83% TREO from 24.35m downhole including 5.40m @ 4.48% TREO (BRCD0001);
- Initial results at Banshee warrant further investigation and follow-up resource definition drilling in 2022.

Figure 1: RC Drilling at Rockslider

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Northern Minerals Limited (ASX: NTU) (Company) is pleased to update shareholders on its activities for the quarter ending 31 December 2021.

Following the appointment of a new Chairman during the quarter, the Company will undertake a review of the Company's strategy which will be led by the new Chairman, Nick Curtis. Nick has an extensive background in mining and finance over more than 30 years, with a particular knowledge of the rare earths industry through his leadership at Lynas Corporation for 14 years. Dysprosium (Dy) is a critical metal in a low carbon future where rare earth based permanent magnet electric motors are going to power the way the world works, from vehicles, to homes, and to industry. Demand for this metal will be on the rise for years to come. The work done over the last ten years by the Company means that it is in a great position to prosper from this important strategic asset. The Board believes the Company is ready to build a broad business that positions itself as a leading supply chain provider for the growing magnet industry.

As a result of the initiation of this strategic review, a pause and review of the FS for a full-scale beneficiation plant at Browns Range has been implemented. Work programs will be slowed down to ensure the Company's resources are focussed on supporting the right strategy. This will be revisited at the completion of the strategic review which is anticipated to take three months.

The Company will be completing the three year test program on the Pilot Plant at Browns Range during the March 2022 quarter. The results of these test programs including results from the ore sorter will be utilised and updated when the FS is restarted. The Pilot Plant will be put on care and maintenance.

During the quarter the Company expended approximately $4.8 million on production and development activities.

During the quarter there have been some encouraging results from the drilling program at Browns Range. Northern Minerals completed 17,500 metres of reverse circulation (RC) drilling and 3,200 metres of diamond drilling.

The first batch of assay results have been received from drilling at the Banshee, Cyclops and Rockslider prospects. Significant intercepts are reported in Appendix 1 and drill hole collars are reported in Appendix 2.

Assay turn around has been particularly slow from the 2021 program with the remainder expected to be returned over the course of the next few months.

Encouraging drill results were received from the Rockslider, Cyclops and Banshee prospects. Best results from Rockslider was 103m @ 0.32% TREO from 15m in BRR0560, while at Cyclops was 15.65m @ 1.83% TREO from 24.35m in BRCD0001, and at Banshee the best intercept of 14m @ 0.50% TREO from 44m was returned (BRBR0105).

Northern Minerals will follow-up these initial results in the second phase of drilling being planned at Browns Range in 2022, following the end of the wet season in the Kimberley region.

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Rockslider

Rockslider is a new prospect defined from a moderate geochemical anomaly mapped in early 2021 (Figure 2).

Assay results were received from two of the initial four, first pass holes completed in August. The drilling was designed to test a large, NW-SE striking hematite breccia and associated geochemical anomaly (Figure 3).

Hole BRR0560 intersected broad intervals of low-grade mineralisation over 100m. The total intersection over 103m was at 0.32% TREO, including 37m @ 0.37% TREO from 15m, and 60m @ 0.31% TREO from 58m. Mineralisation is dominantly HREE, with each mineralised interval exceeding a MHREO/TREO ratio of 0.8.

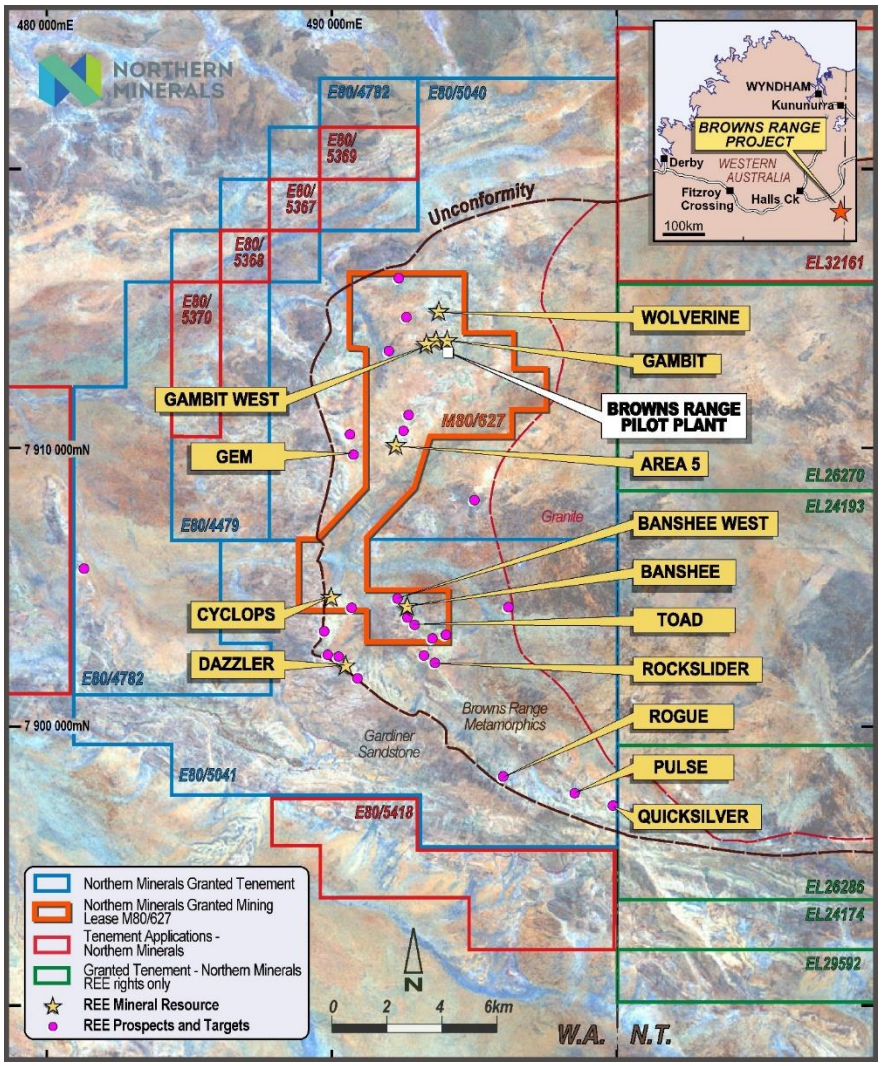

Figure 2: Browns Range Prospect Location Plan

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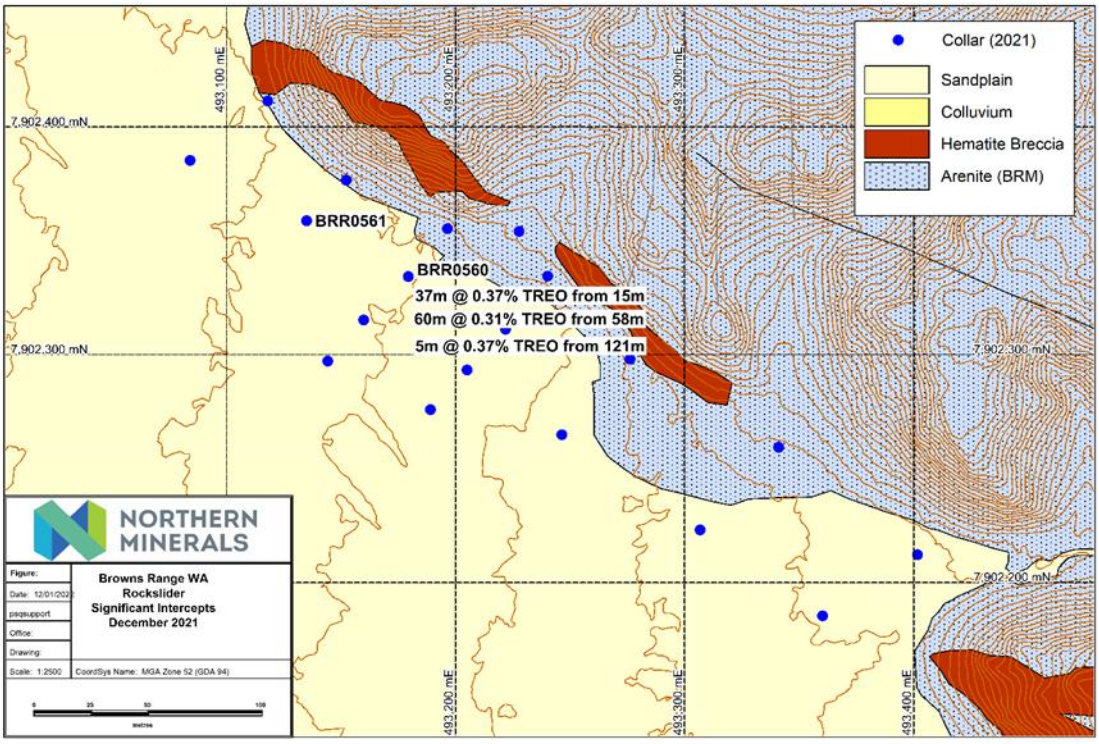

Figure 3 - Significant intercepts, Rockslider Prospect, December 2021

Cyclops prospect

The Cyclops prospect was first discovered in 2012 through ground-truthing an airborne radiometric anomaly. RC drilling was completed between 2012 and 2014, but results were difficult to interpret due to complex faulting through the area.

Cyclops is located approximately 7km to the south of the Browns Range pilot plant within mining lease M80/627 (Figure 2). The rare earth mineralisation mapped on surface at the Cyclops prospect consists of a number of interpreted mineralised veins striking approximately east-west and dipping steeply (65°- 85°) to the north. Drilling has identified that this style of mineralisation is restricted to mainly arenite stratigraphic units.

A single diamond drill hole was designed to better understand mineralisation at depth. Heavy rare earth mineralisation is contained within the mineral xenotime that forms part of a mineralised hematite breccia that cross cuts the stratigraphy. Best results include 15.65m at 1.83% TREO from 24.35m down hole (Figure 4). Follow up diamond drilling is being planned.

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Figure 4 – Mineralised intercept at Cyclops

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Banshee

The Banshee prospect is located approximately 2km east of Cyclops within mining lease M80/627 (Figure 2). A total of 110 RC holes were completed for 7,826 metres in 2021. Assay results have been received for the first 35 holes with significant intercepts detailed in Table 1. A drill hole location plan is given in Figure 5 and 6.

The Banshee prospect forms part of a broad zone of mineralisation over about 1 square kilometre and includes Banshee, Banshee West and Banshee South prospects. The 35 holes for which assay results have been received were designed to follow up on positive results from the 2020 drill program at Banshee West and Banshee South. An infill RC resource definition drill programme was also designed earlier in the year to investigate whether all three prospects were in fact linked. The purpose of this was to see if an Inferred Mineral Resource could be estimated over the broader Banshee area. The results from the resource program are still pending.

Initial results from the 35 holes reported in this release are in line with previous results reported for Banshee indicating broad, low grade mineralisation. Best results include:

- 14m at 0.50% TREO from 44m in hole BRBR0105;
- 17m at 0.20% TREO from 43m in hole BRBR0106;
- 11m at 0.36% TREO from 15m in hole BRBR0109, and
- 14m at 0.33% TREO from 2m in hole BRBR0132.

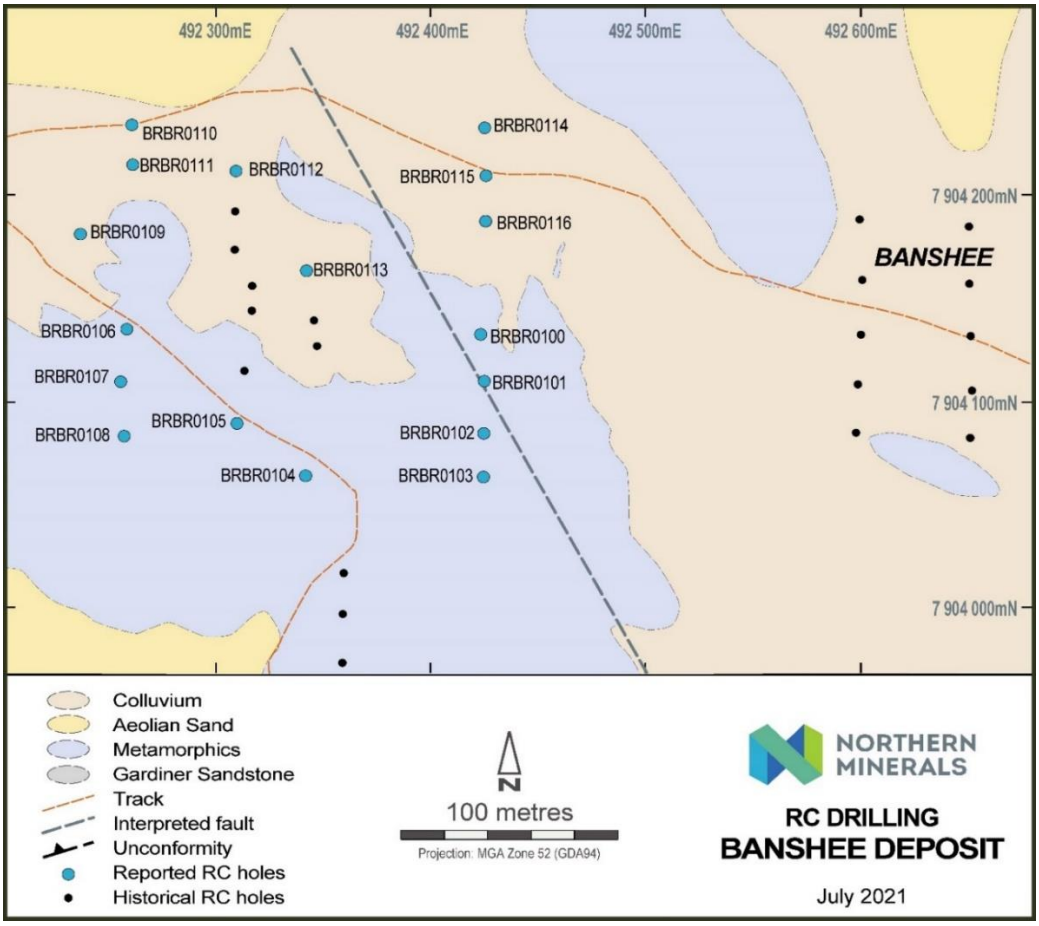

Figure 5 – Banshee West Drill Hole Location Plan

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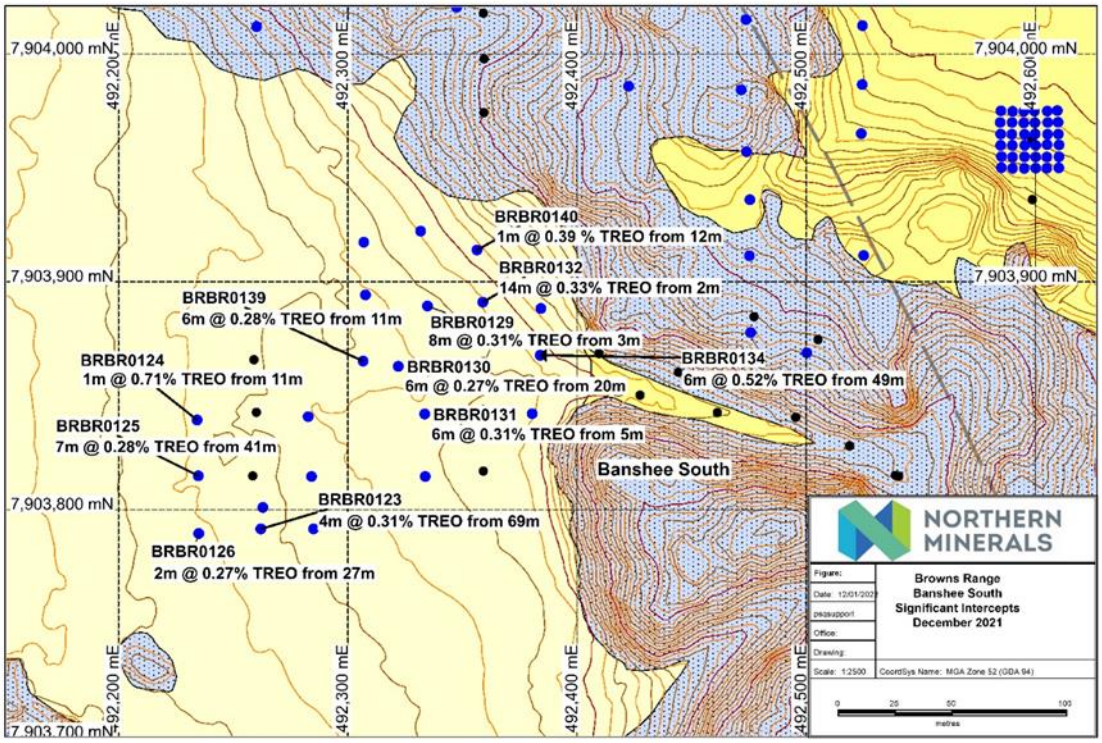

Figure 6: Drill hole location plan Banshee South

Dazzler

The Dazzler deposit is located close to the unconformable contact between the Mesoproterozoic Gardiner Sandstone and the Archean-Palaeoproterozoic Browns Range Metamorphics (Figure 2). The high-grade mineralisation occurs immediately above the unconformity, dipping moderately (30-40 degrees) towards the southwest.

Mineralisation is related to the presence of hydrothermal xenotime, which has been identified by petrographic analysis. Xenotime is the dominant rare earth mineral at the other Browns Range deposits.

A JORC reported Inferred Mineral Resource of 0.21Mt at 2.33% TREO was estimated in April 2020.

A total of 14 RC holes (BRDR0162 -BRDR0175) were drilled at the main resource area to infill previous drilling and work towards reclassifying the resource from Inferred to Indicated status (Figure 7).

Best results include:

- 16m @ 1.30% TREO from 29m in BRDR0162,
- 14m @ 0.56% TREO from 36m in BRDR0164,
- 15m @ 1.86% TREO from 34m in BRDR0165,
- 25m @ 4.92% TREO from 27m in BRDR0166, and

- 16m @ 0.71% TREO from 34m in BRDR0171.

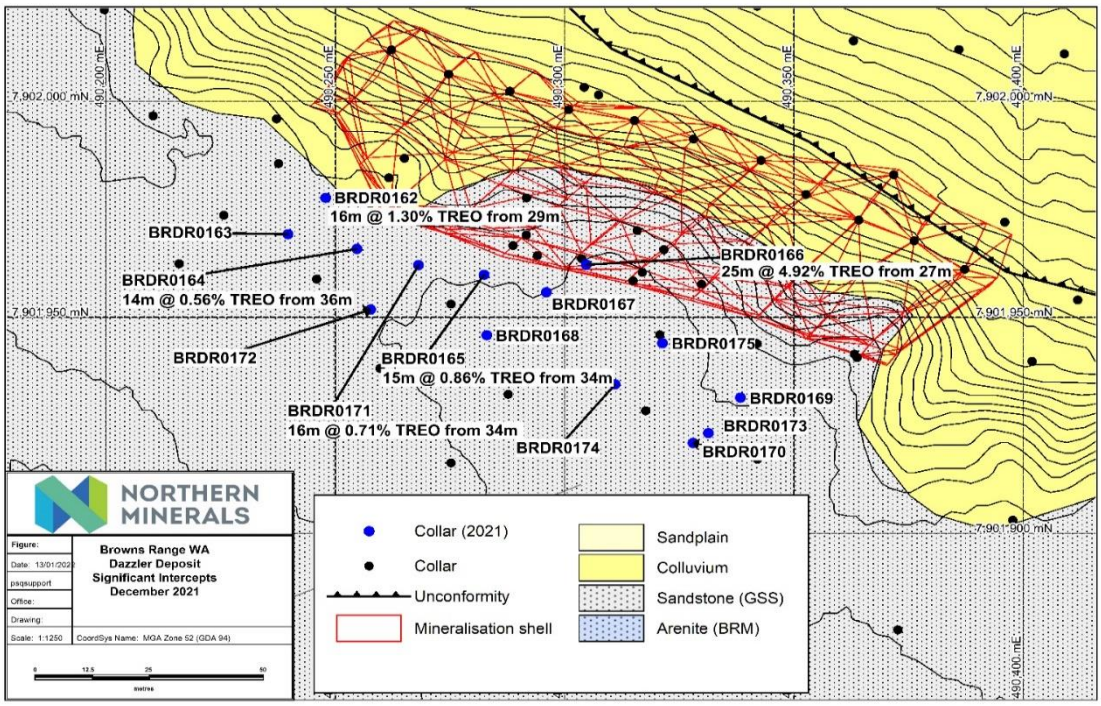

Figure 7 - Significant intercepts, Dazzler Deposit, December 2021

During the quarter the Company expended approximately $2.8 million on exploration and evaluation activities.

2021 R&D claim Received

The Company received $4.3 million for it's refundable Research and Development (R&D) tax offset from the Australia Taxation Office for the 30 June 2021 financial year in the quarter.

Sale of Product

During the quarter, the Company received A$1.4 million revenue from sale of product through its test work at the Browns Range Pilot plant. Heavy rare earth pricing continues to rise. Dysprosium (Dy) prices have increased from US$297/kg at the start of 2021 to a current price of US$471/kg. Terbium (Tb) prices have increased from US$1093/kg at the start of 2021 to a current price US$2,033/kg. Dy and TB account for approximately 70% of the revenue received for our product.

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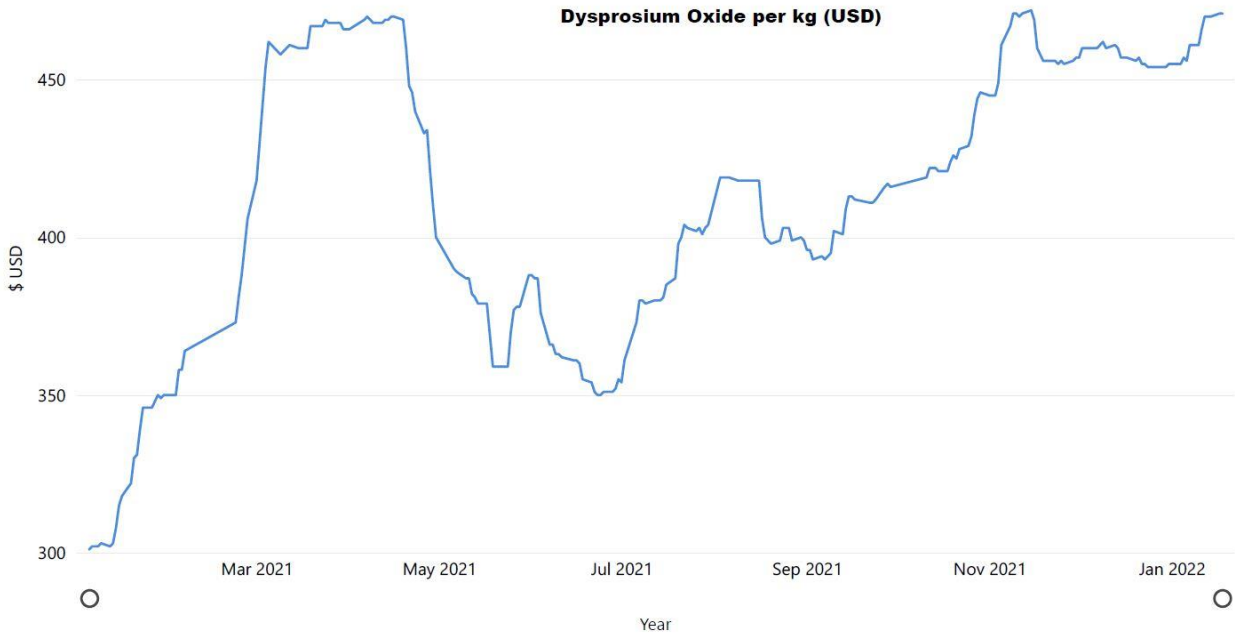

Source of Graphs – Asian Metals

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Payments to related parties of the entity and their associates

Payments made during the quarter and included in 6.1 and 6.2 of Appendix 5B – Mining exploration entity quarterly cash flow report are detailed below:

Aggregate amount of payments to related parties and their associates included in cash flows from operating activities total $106,000.

This comprises of payments to Non-executive Directors remuneration from services. There were no payments to related parties and their associates included in cash flows from investing activities.

Authorised for release by the Board

Compliance Statement – Exploration Results

The information in this report relating to Exploration Results was compiled by Mr Simon Pooley who is a Member of the Australasian Institute of Mining and Metallurgy. Mr Pooley 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 Pooley consents to the inclusion of this information in the form and context in which it appears.

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About Northern Minerals:

Northern Minerals Limited (ASX: NTU) (Northern Minerals or the Company) is one of a few producers of heavy rare earth element Dysprosium outside of China via production from the Browns Range Heavy Rare Earth pilot plant project in northern Western Australia.

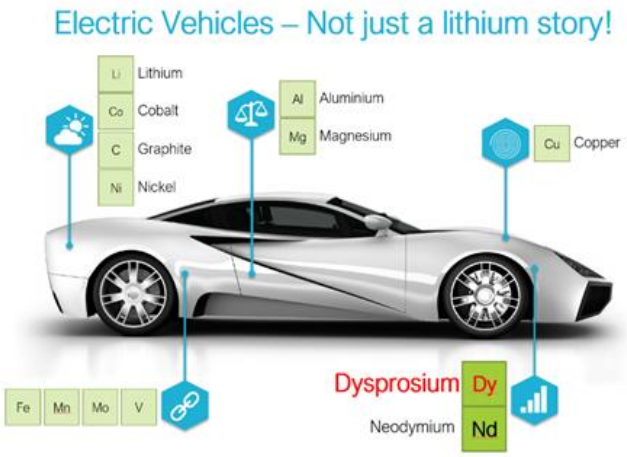
The Company commenced the production of heavy rare earth carbonate in late 2018 as part of pilot assessment of economic and technical feasibility of a larger scale development at Browns Range. An ore sorter was installed and commissioned during 2021 which will also be tested for its economic and technical feasibility at the front end of the pilot plant.

Through the development of its flagship project, the Browns Range Project (the Project), Northern Minerals aims to build the Western Australian operation into a significant world producer of dysprosium outside of China.

The Project is 100% owned by Northern Minerals and has several deposits and prospects containing high value dysprosium and other HREs, hosted in xenotime mineralisation.

Dysprosium is an essential ingredient in the production of DyNdFeB (dysprosium neodymium iron-boron) magnets used in clean energy, military and high technology solutions.

For more information: northernminerals.com.au.



ASX Code:	NTU	Market Capitalisation:	A$238.2m
Issued Shares:	4,861m	Cash (as at 31 December 2021)	A$11.2m

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Tenement Report

Project	Location	Tenement ID	State	Status	Holder Application	Interest
Browns Range WA	Browns Range	E80/4479	WA	Granted	Northern Minerals	100%
	Browns Range	E80/4782	WA	Granted	Northern Minerals	100%
	Browns Range	E80/5040	WA	Granted	Northern Minerals	100%
	Browns Range	E80/5041	WA	Granted	Northern Minerals	100%
	Browns Range	M80/627	WA	Granted	Northern Minerals	100%
	Browns Range	L80/76	WA	Granted	Northern Minerals	100%
	Browns Range	L80/77	WA	Granted	Northern Minerals	100%
	Browns Range	L80/78	WA	Granted	Northern Minerals	100%
	Browns Range	L80/79	WA	Granted	Northern Minerals	100%
	Browns Range	E80/5260	WA	Application	Northern Minerals	100%
	Browns Range	E80/5261	WA	Application	Northern Minerals	100%
	Browns Range	E80/5367	WA	Application	Northern Minerals	100%
	Browns Range	E80/5368	WA	Application	Northern Minerals	100%
	Browns Range	E80/5369	WA	Application	Northern Minerals	100%
	Browns Range	E80/5370	WA	Application	Northern Minerals	100%
	Browns Range	E80/5418	WA	Application	Northern Minerals	100%
Browns Range NT	Browns Range	EL24193	NT	Granted	Northern Star Resources	REE rights only
	Browns Range	EL24174	NT	Granted	Northern Star Resources	REE rights only
	Browns Range	EL26270	NT	Granted	Northern Minerals	100%
Browns Range NT	Browns Range	EL26286	NT	Granted	Northern Star Resources	REE rights only

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Project	Location	Tenement ID	State	Status	Holder Application	Interest
	Browns Range	ELA32161	NT	Application	Northern Minerals	100%
	Browns Range	ELA32162	NT	Application	Northern Minerals	100%
John Galt	John Galt	E80/4298	WA	Granted	Northern Minerals	100%
	John Galt	E80/4967	WA	Granted	Northern Minerals	100%
	John Galt	E80/5070	WA	Granted	Northern Minerals	100%
	John Galt	E80/5230	WA	Granted	Northern Minerals	100%
Boulder Ridge	Boulder Ridge	EL29594	NT	Granted	Northern Minerals	100% (excluding gold rights)
	Boulder Ridge	ELA24849	NT	Application	Northern Minerals	100% (excluding gold rights)
	Boulder Ridge	ELA24935	NT	Application	Northern Minerals	100% (excluding gold rights)
Gardiner-Tanami NT	Boulder Ridge	EL24177	NT	Granted	Northern Star Resources	REE rights only
	Boulder Ridge	EL25171	NT	Granted	Northern Star Resources	REE rights only
	Tanami	EL23932	NT	Granted	Northern Star Resources	REE rights only
	Tanami	EL25009	NT	Granted	Northern Star Resources	REE rights only
	Ware Range	EL26498	NT	Granted	Northern Star Resources	REE rights only
	Ware Range	EL26541	NT	Granted	Northern Star Resources	REE rights only
	Pargee	EL27367	NT	Granted	Northern Minerals	100%
	Tanami	EL29592	NT	Granted	Northern Star Resources	REE rights only
	Tanami	EL29593	NT	Granted	Northern Star Resources	REE rights only
Gardiner-Tanami NT	Tanami	EL29595	NT	Granted	Northern Star Resources	REE rights only
	Tanami	ELA29619	NT	Application	Northern Star Resources	REE rights only
	Tanami	ELA29621	NT	Application	Northern Star Resources	REE rights only

Project	Location	Tenement ID	State	Status	Holder Application	Interest
	Tanami	EL26635	NT	Granted	Northern Star Resources	REE rights only
	Boulder Ridge	ELA28868	NT	Application	Northern Star Resources	REE rights only
	Boulder Ridge	ELA30132	NT	Application	Northern Minerals	100%
	Boulder Ridge	EL27590	NT	Granted	Northern Star Resources	REE rights only
	Tanami	ELA32163	NT	Application	Northern Star Resources	REE rights only
	Tanami	ELA32164	NT	Application	Northern Star Resources	REE rights only
Rabbit Flats	Rabbit Flats	ELA25159	NT	Application	Northern Star Resources	REE rights only
	Rabbit Flats	ELA25160	NT	Application	Northern Star Resources	REE rights only

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Appendix 1: Significant Drill Hole Intercepts

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Hole ID	Prospect	Hole Type		From (m)	To (m)	Width (m)	TREO (%)	Dy2O3 (ppm)
BRCD0001	Cyclops	DD		1.20	4.00	3.50	0.15	73
			and	24.35	40.00	15.65	1.83	1,487
			incl	28.60	34.00	5.40	4.48	3,728
BRCR0038	Cyclops	RC		1	8	7	0.32	225.66
BRCR0039	Cyclops	RC		27	29	2	0.22	191.15
BRBR0100	Banshee	RC		37	39	2	0.89	841
BRBR0101	Banshee	RC		15	18	3	0.45	357
			and	22	24	2	0.24	216
			and	30	34	4	0.18	136
			and	42	45	3	0.21	112
			and	53	58	5	0.21	148
			and	76	78	2	0.20	170
BRBR0102	Banshee	RC		23	28	5	0.15	110
			and	36	37	1	0.30	287
			and	43	54	11	0.23	198
			and	71	74	3	0.18	170
BRBR0103	Banshee	RC		31	43	12	0.20	161
			and	60	62	2	0.29	272
			and	84	93	9	0.17	147
BRBR0104	Banshee	RC		45	46	1	0.32	290
			and	56	63	7	0.14	132
			and	81	83	2	0.16	148
			and	91	93	2	0.23	47
BRBR0105	Banshee	RC		44	58	14	0.50	399
BRBR0106	Banshee	RC		43	60	17	0.20	155
BRBR0107	Banshee	RC		79	81	2	0.16	148
BRBR0108	Banshee	RC		92	94	2	0.18	85
BRBR0109	Banshee	RC		15	26	11	0.36	178
BRBR0110	Banshee	RC		17	19	2	0.18	143
			and	28	34	6	0.17	147
BRBR0111	Banshee	RC		No Significant Mineralisation				
BRBR0112	Banshee	RC		48	52	4	0.27	209
BRBR0113	Banshee	RC		No Significant Mineralisation				
BRBR0114	Banshee	RC		17	19	2	0.34	313
BRBR0115	Banshee	RC		No Significant Mineralisation				
BRBR0116	Banshee	RC		65	66	1	1.36	899
BRBR0117	Banshee	RC		No Significant Mineralisation				
BRBR0118	Banshee	RC		9	11	2	0.38	219
			and	14	20	6	0.23	155
BRBR0119	Banshee	RC		No Significant Mineralisation				
BRBR0120	Banshee	RC		No Significant Mineralisation				
BRBR0121	Banshee	RC		No Significant Mineralisation				

Hole ID	Prospect	Hole Type		From (m)	To (m)	Width (m)	TREO (%)	Dy2O3 (ppm)
BRBR0122	Banshee	RC		No Significant Mineralisation				
BRBR0123	Banshee	RC		69	73	4	0.31	148
BRBR0124	Banshee	RC		11	12	1	0.71	608
BRBR0125	Banshee	RC		41	48	7	0.28	142
BRBR0126	Banshee	RC		27	29	2	0.27	200
BRBR0127	Banshee	RC		No Significant Mineralisation				
BRBR0128	Banshee	RC		No Significant Mineralisation				
BRBR0129	Banshee	RC		3	11	8	0.31	280
BRBR0130	Banshee	RC		20	26	6	0.27	213
BRBR0131	Banshee	RC		5	11	6	0.31	288
BRBR0132	Banshee	RC		2	16	14	0.33	304
BRBR0133	Banshee	RC		No Significant Mineralisation				
BRBR0134	Banshee	RC		2	5	3	0.22	212
			and	49	55	6	0.52	303
BRBR0135	Banshee	RC		No Significant Mineralisation				
BRBR0136	Banshee	RC		No Significant Mineralisation				
BRBR0137	Banshee	RC		No Significant Mineralisation				
BRBR0138	Banshee	RC		No Significant Mineralisation				
BRBR0139	Banshee	RC		11	17	6	0.28	167.87
		RC	*and*	23	25	2	0.31	180.35
BRBR0140	Banshee	RC		12	13	1	0.39	141.1
BRDR0155	Dazzler	RC		16	17	1	0.37	211.4
BRDR0156	Dazzler	RC		No Significant Mineralisation				
BRDR0157	Dazzler	RC		No Significant Mineralisation				
BRDR0158	Dazzler	RC		No Significant Mineralisation				
BRDR0159	Dazzler	RC		No Significant Mineralisation				
BRDR0160	Dazzler	RC		No Significant Mineralisation				
BRDR0161	Dazzler	RC		No Significant Mineralisation				
BRDR0162	Dazzler	RC		29	45	16	1.30	1186.01
BRDR0163	Dazzler	RC		37	40	3	0.26	210.17
			and	44	51	7	0.44	327.14
			and	59	66	7	0.41	217.6
			and	75	78	3	0.23	26.17
BRDR0164	Dazzler	RC		36	50	14	0.56	412.75
BRDR0165	Dazzler	RC		70	73	3	0.30	42.87
				34	49	15	1.86	1787.51
				55	60	5	0.25	105.34
BRDR0166	Dazzler	RC		27	52	25	4.92	4900.26
BRDR0167	Dazzler	RC		No Significant Mineralisation				
BRDR0168	Dazzler	RC		58	59	1	0.60	511.7
BRDR0169	Dazzler	RC		48	52	4	0.52	434.65
BRDR0170	Dazzler	RC		77	78	1	0.36	35.1
BRDR0171	Dazzler	RC		34	50	16	0.71	576.57
			and	64	68	4	0.36	80.43

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Hole ID	Prospect	Hole Type		From (m)	To (m)	Width (m)	TREO (%)	Dy2O3 (ppm)
BRR0558	Rockslider	RC		No Significant Mineralisation				
BRR0559	Rockslider	RC		No Significant Mineralisation				
BRR0560	Rockslider	RC		15	52	37	0.37	335.68
BRR0560			*and*	58	118	60	0.31	252.19
BRR0560			*and*	121	126	5	0.37	276.86

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.)

(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)

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Appendix 2: Drill Hole Collars

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Cyclops

Hole ID	Easting (mE)	Northing (mN)	RL (mASL)	Mag Azimuth (Degrees)	Dip (Degrees)	Depth (m)
BRCD0001	489760	7904605	432	180	-60	51.48
BRCR0038	489760	7904530	432	177	-60	102
BRCR0039	489810	7904630	431	177	-60	54

Banshee

Hole ID	Easting (mE)	Northing (mN)	RL (mASL)	Mag Azimuth (Degrees)	Dip (Degrees)	Depth (m)
BRBR0100	492425	7904135	450	357	-60	78
BRBR0101	492425	7904111	446	360	-60	84
BRBR0102	492425	7904086	446	002	-60	84
BRBR0103	492425	7904064	447	360	-60	96
BRBR0104	492342	7904065	444	002	-60	96
BRBR0105	492310	7904091	444	359	-60	90
BRBR0106	492259	7904136	441	002	-60	72
BRBR0107	492256	7904110	443	001	-60	84
BRBR0108	492258	7904084	443	002	-60	102
BRBR0109	492237	7904182	435	001	-60	84
BRBR0110	492261	7904235	432	360	-60	66
BRBR0111	492262	7904215	433	001	-60	66
BRBR0112	492309	7904212	434	003	-60	66
BRBR0113	492342	7904164	435	360	-60	66
BRBR0114	492425	7904234	435	001	-60	54
BRBR0115	492425	7904210	436	003	-60	60
BRBR0116	492426	7904188	437	360	-60	72
BRBR0117	492881	7903836	442	182	-60	48
BRBR0118	492902	7903860	440	181	-60	72
BRBR0119	492929	7903858	450	177	-60	54
BRBR0120	492285	7903815	450	360	-60	54
BRBR0121	492285	7903790	450	360	-60	54
BRBR0122	492285	7903840	450	360	-60	54
BRBR0123	492260	7903790	450	180	-60	102
BRBR0124	492235	7903840	450	360	-60	54
BRBR0125	492235	7903815	450	360	-60	54
BRBR0126	492235	7903790	450	360	-60	54
BRBR0127	492145	7903940	450	360	-60	54
BRBR0128	492145	7903915	450	360	-60	54
BRBR0129	492335	7903890	450	360	-60	54

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Banshee Continued

Hole ID	Easting (mE)	Northing (mN)	RL (mASL)	Mag Azimuth (Degrees)	Dip (Degrees)	Depth (m)
BRBR0130	492335	7903865	450	360	-60	54
BRBR0131	492335	7903840	450	360	-60	54
BRBR0132	492360	7903890	450	180	-60	54
BRBR0133	492385	7903890	450	360	-60	54
BRBR0134	492385	7903865	450	360	-60	66
BRBR0135	492385	7903840	450	360	-60	54
BRBR0136	492477	7903885	450	225	-60	54
BRBR0137	492505	7903875	450	225	-60	54
BRBR0138	492335	7903815	440	360	-60	54
BRBR0139	492310	7903865	440	360	-60	54
BRBR0140	492360	7903915	440	180	-60	54

Dazzler

Hole ID	Easting (mE)	Northing (mN)	RL (mASL)	Mag Azimuth (Degrees)	Dip (Degrees)	Depth (m)
BRDR0151	490829	7902034	439	165	-60	54
BRDR0152	490802	7902099	438	344	-60	54
BRDR0153	490810	7902072	438	343	-60	54
BRDR0154	490818	7902054	438	345	-60	54
BRDR0155	490366	7902121	443	279	-60	54
BRDR0156	490382	7902121	443	277	-60	84
BRDR0157	490368	7902143	446	275	60	54
BRDR0158	490381	7902147	445	276	-60	90
BRDR0159	490418	7902159	443	318	-60	84
BRDR0160	490215	7902183	461	226	60	132
BRDR0161	490183	7902178	460	236	60	122
BRDR0162	490248	7901978	472	042	-60	54
BRDR0163	490240	7901969	472	044	-60	84
BRDR0164	490255	7901966	472	043	-60	60
BRDR0165	490282	7901960	472	041	-60	78
BRDR0166	490305	7901962	472	041	-60	54
BRDR0167	490296	7901956	472	041	-60	24
BRDR0168	490283	7901946	473	042	-60	72

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Dazzler Continued

Hole ID	Easting (mE)	Northing (mN)	RL (mASL)	Mag Azimuth (Degrees)	Dip (Degrees)	Depth (m)
BRDR0169	490338	7901931	472	044	-50	72
BRDR0170	490328	7901921	472	042	-60	84
BRDR0171	490268	7901962	472	041	-50	84
BRDR0172	490258	7901952	472	042	-50	84
BRDR0173	490331	7901923	472	044	-50	78
BRDR0174	490311	7901934	473	045	-50	96
BRDR0175	490321	7901944	473	046	-50	78

Rockslider

Hole ID	Easting (mE)	Northing (mN)	RL (mASL)	Mag Azimuth (Degrees)	Dip (Degrees)	Depth (m)
BRR0558	493198	7902354	450	045	-60	120
BRR0559	493160	7902381	450	045	-60	96
BRR0560	493179	7902338	450	045	-60	138

Table 1: JORC code, 2012 Edition

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.*	Drill collar locations have been surveyed using high accuracy KGPS. Down hole surveys were completed using a gyroscope where possible. RC samples were collected at one metre intervals and subsampled via a rig mounted static cone splitter. Reverse Circulation (RC) drill samples were analysed using Niton XRF XLt3-950 GOLDD+ portable XRF analyser (pXRF). The pXRF was placed on the primary split sample taken off the drilling rig's static cone splitter. One measurement was completed for each drill metre sample, through the calico bag. The results from the initial pXRF readings formed the basis for sample selection for additional geochemical analysis.
	Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.	The pXRF instrument is calibrated and serviced annually or more frequently, with daily instrument calibration completed as a minimum. Additionally, at the start of each sampling session, standards are analysed. Sampling was carried out under NTU protocols and employed QAQC procedures in line with industry standard practice and fit for purpose i.e. first-pass exploration drilling. RC drill holes were sampled at one metre intervals exclusively and split at the rig to achieve a target 2 to 5 kilogram sample weight. Diamond drilling at Cyclops utilised HQ3 core. All core was read using a pXRF. Where a point reading of >200ppm Yttrium was recorded, half core was cut and sampled for assay.
	Aspects of the determination of mineralisation that are Material to the Public Report.	This report relates to exploration results only.

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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).*	RC drilling at Cyclops, Banshee, Dazzler and Rockslider was with nominal diameter of 5 3/8 inches bit. RC drilling was completed using face sampling hammer. Diamond drilling at Cyclops utilised HQ3 core diameter.
Drill sample recovery	*Method of recording and assessing core and chip sample recoveries and results assessed.*	RC recovery was initially assessed by subjective assessment based on volume recovered. All intervals selected for geochemical analysis were subsequently weighed incorporating the bulk sample plus the primary and duplicate samples. RC recoveries were observed to be generally acceptable with recoveries typically 80% or greater. RC recovery information is recorded in the geologist logs and entered into the database. Diamond core recovery was measured and logged. Recoveries were typically greater than 90%.
	Measures taken to maximise sample recovery and ensure representative nature of the samples.	Geologists were based at the RC rig, and regularly inspected operations to ensure correct procedures were being used. RC sample recoveries were visually checked for recovery, moisture and contamination. The cyclone and splitter were routinely cleaned to minimise material build up. Diamond drilling utilised HQ triple tube to obtain optimal 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.	At this stage of exploration this relationship has not been investigated at the prospects in question.
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.*	RC logging was completed on one metre intervals at the rig by the geologist. Diamond core logging of the entire core length was completed. Typically, lithology, structure and mineralisation was recorded. Logging is 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. Chip trays were collected for each of the RC intervals.
	Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.	Logging was generally qualitative in nature.

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	The total length and percentage of the relevant intersections logged.	All RC drilling metres and diamond core were logged and entered into the database.
Sub-sampling techniques and	*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 rig mounted 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 RC and diamond core 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.
	Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.	At this stage of exploration, subsampling is limited to on rig splitting using a static cone splitter. No QA/QC of the splitting method has been carried out. With diamond core sampling, half core is retained for future reference.
	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.	Blanks were inserted in the field and developed from local host rock following chemical analysis. Field duplicates were collected by a second sample off the splitter (RC). Insertion rates targeted 1:20 for duplicates, blanks and standards, with increased frequency in mineralised zones..
Sample preparation	*Whether sample sizes are appropriate to the grain size of the material being sampled.*	The RC and diamond core sample is appropriate for the grain size of the material.
	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.
Quality of assay data and laboratory tests	*For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the*	In the field a Niton (XL3T-950 GOLDD+) XRF handheld tool was used to provide a preliminary quantitative measure of mineralisation. A reading time of 30 seconds was used, with a single reading taken for every metre of RC drilling. With diamond core, up to 4 point readings were recorded every metre. The reading was on unprepared raw RC

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	analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.	chips, through the calico sample bag. The samples contained natural moisture. Calibration of the PXRF is at least daily 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 blindly and 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.
	The verification of significant intersections by either independent or alternative company personnel.	Internal verification of significant results by more than one company geologist.
Verification of sampling and assay	*The use of twinned holes.*	No holes have been twinned due to this being early stage exploration at the prospects in question.
	Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.	**Portable XRF** Analytical data was collected directly by the Niton pXRF and downloaded by digital transfer to an excel sheet with inbuilt QAQC. 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. **RC and Diamond Core 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.

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	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.	Drill collar locations have been surveyed with a high accuracy KGPS. Down hole surveys were completed by the drilling contractor using a gyroscope or single-shot survey tool at the time of drilling. Drill collar locations have subsequently been surveyed using high accuracy KGPS. Down hole surveys have also been conducted post-drilling, where practical, using a Reflex Gyro survey instrument. Survey accuracy of both collars and down hole is considered acceptable at this stage of the exploration program.
Location of data points	*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 control is based on airborne digital terrain survey data collected in 2011 with accuracy considered to be +/-1m.
	Data spacing for reporting of Exploration Results.	Cyclops – 3 drill hole completed on historical drill lines. Banshee – 110 drill holes completed on numerous drill fences 50m to 75m apart, with individual holes 25m apart (along fences containing previous drilling). Refer to Figures 5 and 6. At Dazzler, drilling was infill on a 25m x 25m spacing. At Rockslider, drill lines where 50m apart and 25m apart along drill lines.

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Data spacing and distribution	*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.*	Exploration Results only. Data spacing and distribution is not yet sufficient to support Mineral Resource or Ore Reserve Estimation.
	Whether sample compositing has been applied.	N/A
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.*	Most drill holes in the current program have been drilled at an inclination of 60° at an orientation perpendicular to the interpreted structural and/or lithological trend. For the Banshee drilling, all holes are drilled -60 degrees to the north to intersect subvertical to steeply dipping, east – west trending primary structures known to host mineralisation. At Dazzler, holes were drilled at -60 degrees towards an azimuth of 45 degrees, the same orientation as the majority of holes completed at Dazzler, targeting extensions along west-northwest mineralised trend. At Rockslider, holes were drilled perpendicular to the strike of the mapped haematite breccia.
	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. *The orientation of the drilling is suitable for each prospect and is not expected to introduce any sampling bias.
Sample security	*The measures taken to ensure sample security.*	Samples are collected on site under supervision of the 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 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.

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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 Cyclops, Banshee prospects are located on M80/627. The tenement is located in the company's Browns Range Project approximately 150 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 Dazzler and Rockslider prospects are located immediately south of M80/627 within E80/5041.
	The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the 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 the prospects in question. Regional exploration for uranium mineralisation was completed in the 1980s without success.
Geology	*Deposit type, geological setting and style of mineralisation.*	The Browns Range prospects 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

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		Range Metamorphics. Various alteration styles and intensities have been observed; namely silicification, sericitisation and kaolinite alteration. Cyclops and Rockslider- mineralisation is hosted by a sub-vertical quartz-hematitic fault breccia(s) that trend approximately east-west, within the Browns Range Metamorphics. Mineralisation is again related to the presence of hydrothermal xenotime. The Dazzler area prospects are located on a scarp slope that marks the unconformity between the younger overlying Gardiner Sandstone and the older Browns Range Metamorphics. At both prospects it is currently unclear what the controls on mineralisation are, however there is a clear spatial association between the unconformity and the most anomalous zones, with mineralisation occurring in both units above and below the unconformity. At Banshee, Xenotime mineralisation is hosted within coarser grained arkose units of the Browns Range Metamorphics and is considered bedding conformable.
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.*	See tables above in Appendix 2.
Data aggregation methods	*In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg*	Significant intervals were tabulated downhole for reporting. Each metre downhole was analysed using sodium fusion ICP-MS. All individual metres (one result per metre) were averaged over the entire tabulated range. A lower cut-off

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	cutting of high grades) and cut-off grades are usually Material and should be stated.	of 0.15% TREO was used during data aggregation, allowing for 2m of internal dilution. No top-cuts have been applied.
	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.	All intervals were initially based on 1m sample runs, with no lengths shorter than 1m. The geologist then qualitatively grouped contiguous mineralised runs together and the average analysis of the entire run is reported here.
	The assumptions used for any reporting of metal equivalent values should be clearly stated.	No metal equivalents values are used for reporting of exploration results.
Relationship between mineralisation widths and intercept lengths	*If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.*	At Cyclops, the mineralisation trend is sub-vertical and east-west, with drill holes oriented at 60 degrees towards the south, the intersection angle with the mineralised zone is considered optimal. The geometry of mineralisation at Dazzler is generally assumed to be east-west or northwest-southeast based on mineralisation and outcropping structures at adjacent prospects or targets. Based on these assumptions the drilling orientation at each of the aforementioned prospects is considered optimal. At Rockslider, mineralisation trends NW – SE and dips to the SW
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.*	Refer to Figures 2,3,4 ,5 and 6 in the body of text.
Balanced reporting	*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, including those with "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*	At Browns Range Project WA, airborne magnetic and radiometric surveys were acquired by Northern Minerals in 2011. Hypersp and ectral data captured during October 2012 by Hyvista Corporation Pty Ltd. Very high resolution

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	results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.	"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. Mineral Resource estimates have been completed at the Dazzler and Banshee deposits.
Further work	*The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).*	Follow-up drilling is being planned at the Cyclops, Banshee and Rockslider prospects.
	Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.	Refer to Figures 2,3,4,5 and 6 in body of text.

Section 3: Estimation and Reporting of Mineral Resources

Not applicable

Section 4: Estimation and Reporting of Ore Reserves

Not applicable