ASX ANNOUNCEMENT
12 November 2019

Near surface high-grade results from Dazzler drilling at Browns Range, Western Australia

Highlights

- Wide, shallow high-grade rare earth intercepts from Dazzler drilling;
- Intercepts from surface of up to 7.71% TREO including 7,502ppm Dysprosium;
- Drilling confirms Dazzler as a high-grade deposit with good grade continuity;
- Mineral Resource update planned for January; and
- Metallurgical testwork program commenced on Dazzler drill core

Australian heavy rare earths producer, Northern Minerals Limited (ASX: NTU) (the **Company**) is pleased to announce further high-grade assay results from recently completed infill and step-out reverse circulation (**RC**) drilling at the Dazzler prospect, part of the Browns Range Project in the East Kimberley region of Western Australia.

Assay results have been received for the first 12 (BRDR0037-0048) of the 51 drill holes completed at Dazzler in September. The significant assay results for these 12 drill holes are summarised in Table 1 below.

The drilling program focussed on the area of the scree slope below the scarp where previous drilling was undertaken. The drilling program was designed to step-out to the north of the previous drilling in order to update the existing Mineral Resource.

RC drilling at Dazzler

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Table 1 – Significant assay results from RC drilling – Dazzler Prospect, September 2019 (Intervals > 2m @ 0.15% TREO or equivalent, including up to 2m internal dilution. No top-cut has been applied)

Hole ID	From	To	Interval* (m)	TREO (%)	Dy_2O_3 (ppm)	HREO%
BRDR0037	6	9	3	0.44	272	54
BRDR0037	27	29	2	0.40	270	71
BRDR0038	6	13	7	0.53	377	65
BRDR0038	23	37	14	0.46	299	67
BRDR0039	4	11	7	0.52	345	53
BRDR0039	20	22	2	0.34	101	40
BRDR0040	**0**	**13**	**13**	**0.91**	**808**	**77**
BRDR0040	22	31	9	0.21	109	57
BRDR0041	0	7	7	0.59	511	72
BRDR0041	22	27	5	0.25	169	69
BRDR0042	**0**	**9**	**9**	**5.27**	**5,293**	**78**
BRDR0043	0	6	6	0.58	491	78
BRDR0043	9	12	3	0.34	212	63
BRDR0043	18	20	2	0.25	133	53
BRDR0044	0	4	4	0.45	333	75
BRDR0044	7	10	3	0.22	95	39
BRDR0045	**0**	**19**	**19**	**6.05**	**5,595**	**87**
BRDR0046	**0**	**21**	**21**	**7.71**	**7,502**	**92**
BRDR0046	29	30	1	0.36	177	58
BRDR0047	**0**	**10**	**10**	**1.19**	**1,111**	**87**
BRDR0047	17	20	3	0.15	70	45
BRDR0048	30	34	4	0.21	113	51

** Downhole widths only.*

TREO = Total Rare Earth Oxides – La_2O_3, CeO_2, Pr_6O_{11}, Nd_2O_3, Sm_2O_3, Eu_2O_3, Gd_2O_3, Tb_4O_7, Dy_2O_3, Ho_2O_3, Er_2O_3, Tm_2O_3, Yb_2O_3, Lu_2O_3, Y_2O_3;
HRE or HREO = Heavy Rare Earth Oxides – Total of Sm_2O_3, Eu_2O_3, Gd_2O_3, Tb_4O_7, Dy_2O_3, Ho_2O_3, Er_2O_3, Tm_2O_3, Yb_2O_3, Lu_2O_3, Y_2O_3
HREO % = HREO / TREO * 100

These results are highly significant as many of the intercepts occur at or near the surface, increasing the potential for a low operating cost operation. The results will be used to update the Mineral Resource Estimate which will be completed in January 2020.

The Dazzler deposit is located less than 15km from the Browns Range Pilot Plant on the edge of a small scarp slope. The maiden Inferred Mineral Resource for the Dazzler deposit has been estimated at **144,000 tonnes at 2.23% TREO comprising 3,200,000 kg TREO** using a cut-off grade of 0.15% TREO. Details of this Mineral Resource Estimate are contained in the Company's ASX Announcement dated 6 March 2019 entitled "Dazzler shines with high-grade Maiden Mineral Resource"

Figure 1: Plan view of the Dazzler deposit

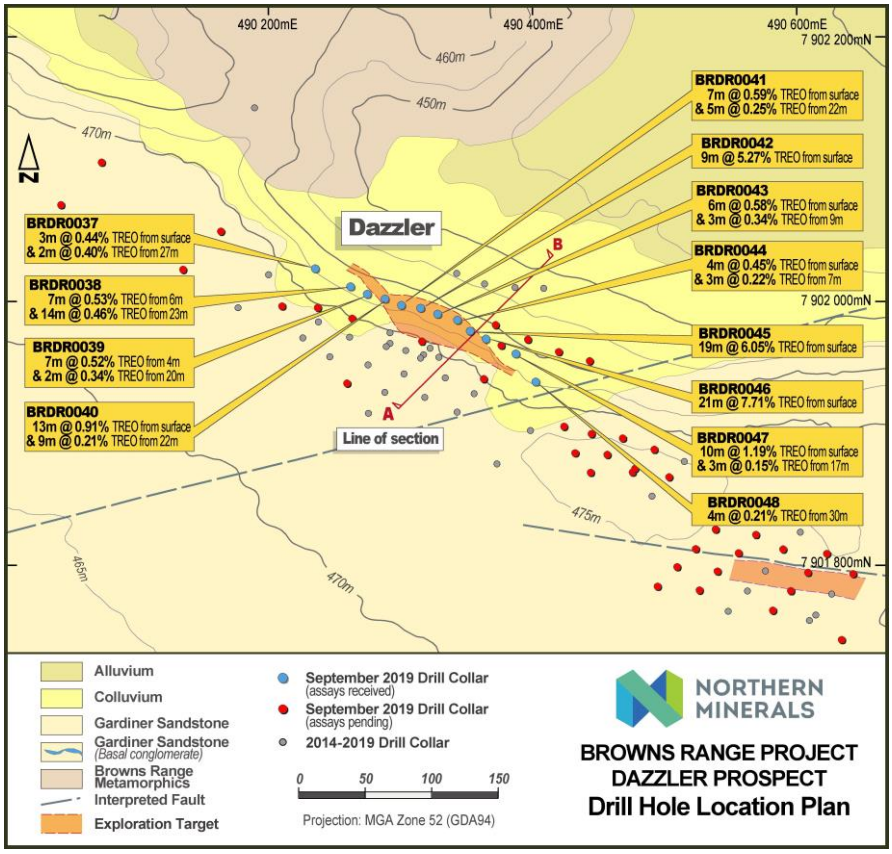
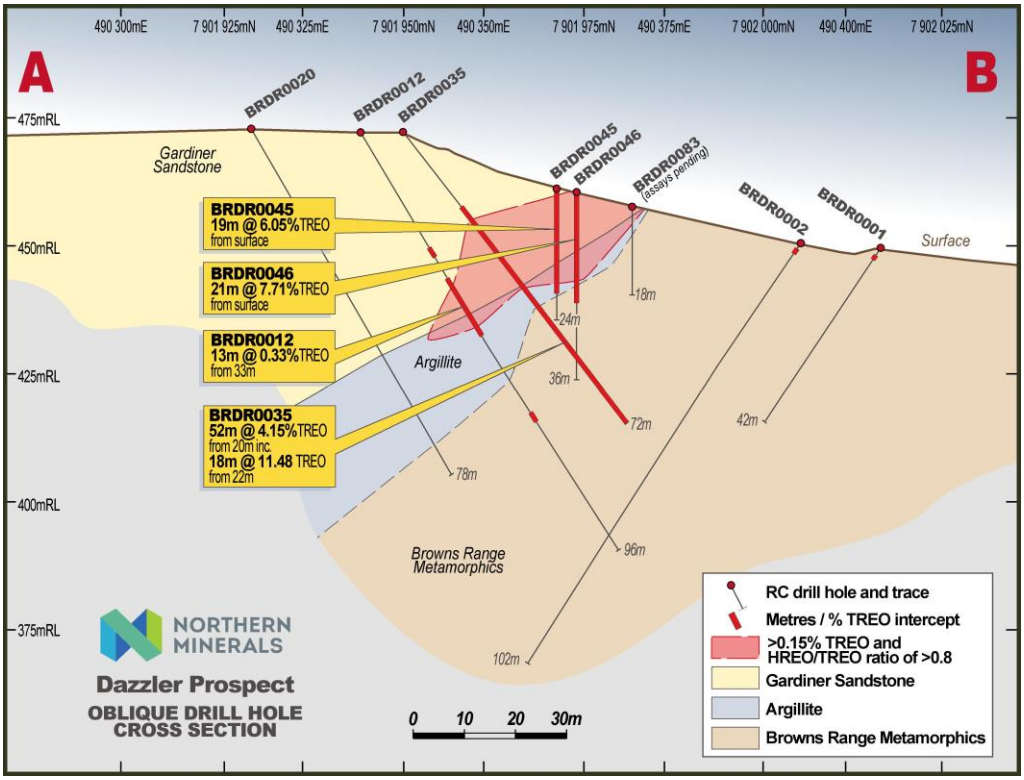


Figure 2: Cross-section through Dazzler



Further RC drilling at Browns Range is set to commence later this week, with exploration and resource definition drilling planned at several different deposits and targets.

Metallurgical testwork

A PQ diamond core was drilled at the Dazzler deposit in May for use as a metallurgical sample in a test work program underway at Nagrom under Northern Minerals supervision. The core was scanned by an automated XRF scanner at 1 cm intervals to assess the variability and the ability to X-ray sort the ore. Some of the coarser material was manually X-rayed to determine sortability.

Mineralogy has been done on the four composites that were made up from four distinct ore bands observed in the core. These bands varied from 3 to 13% TREO.

The coarse fractions of the composites were sent for ore sorting test work at Steinert. Preliminary work has indicated that the coarse fractions can be effectively sorted.

The test work program at Nagrom has focused on the beneficiation steps of the process, with crushing, scrubbing, grind size optimization and magnetic separation test work completed on the four composites.

The friable portion of the Dazzler material breaks down by scrubbing, with 50% of the ore reporting to the <10mm size fraction and this is generally upgraded in rare earths.

Sighter magnetic separation work has been promising.

Flotation and bake tests are planned, and samples will be prepared for environmental test work and radionuclide deportment studies.

Commentary

Northern Minerals' Managing Director and CEO, George Bauk, said "*We continue to be impressed and enthusiastic about the potential of Dazzler.*

"As with all mineral deposits 'grade is king' and these results continue to deliver on the upside.

"We will now commence updating the Mineral Resource Estimate and investigate mining studies for Dazzler."

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Competent Persons Declaration:

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

The information in this announcement that relates to the Mineral Resource Estimate at Dazzler is extracted from the report entitled "Dazzler shines with high-grade Maiden Mineral Resource" dated 6 March 2019 and is available to view on the company's website (www.northernminerals.com.au). The company confirms that it is not aware of any new information or data that materially affects the information included in the original market announcement and that all material assumptions and technical parameters underpinning the estimates in the relevant market announcement continue to apply and have not materially changed. The company confirms that the form and context in which the Competent Person's findings are presented have not been materially modified from the original market announcement.

About Northern Minerals:

Northern Minerals Limited (ASX: NTU; Northern Minerals or the Company) has completed practical completion of the Browns Range Heavy Rare Earth Pilot Plant Project in northern Western Australia and commenced pilot plant production of heavy rare earth carbonate.

The Pilot Plant Project will continue to assist the company evaluate the economic and technical feasibility of mining at Browns Range, and will provide the opportunity to gain production experience and surety of supply for our offtake partner.

Through the development of its flagship project, the Browns Range Project (the Project), Northern Minerals aims to build the Western Australian operation into the first 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 and high technology solutions.

For more information: northernminerals.com.au.

ASX Code:	NTU	Market Capitalisation:	A$135.4m
Issued Shares:	2,555m	Cash (as at 30 September 2019):	A$18.8m

Appendix 1

Dazzler drill hole collar details (only holes with assay results reported), (all coordinates in GDA94 Zone 52)

Hole ID	East	North	RL	Mag Azimuth	Inclination	Depth(m)
BRDR0037	490235	7902026	462	360	-90	30
BRDR0038	490262	7902012	461	360	-90	42
BRDR0039	490275	7902006	461	360	-90	36
BRDR0040	490288	7902002	461	360	-90	36
BRDR0041	490301	7901998	461	360	-90	30
BRDR0042	490315	7901996	461	360	-90	24
BRDR0043	490328	7901991	460	360	-90	24
BRDR0044	490343	7901986	459	360	-90	30
BRDR0045	490353	7901978	460	360	-90	24
BRDR0046	490364	7901973	460	360	-90	36
BRDR0047	490387	7901961	459	360	-90	36
BRDR0048	490402	7901940	461	360	-90	54

JORC TABLE ONE:

Section 1 Sampling Techniques and Data

Criteria	JORC Code explanation	Commentary
Sampling techniques	• *Nature and quality of sampling (eg 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.* • *Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.* • *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 (eg '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 (eg submarine nodules) may warrant disclosure of detailed information.*	• At the Dazzler prospect 51 RC drill holes have been completed for 3,312m with hole depths between 18m and 138m. This report details assay results from the first 12 holes of the program (BRDR0037 – 0048) which is all that has been reported to date. 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 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 using a manual triple tier riffle splitter to achieve a target 2-5 kilogram sample weight.
Drilling techniques	• *Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg 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 was with nominal diameters of 145mm. RC drilling was completed using face sampling hammer.
Drill sample recovery	• *Method of recording and assessing core and chip sample recoveries and results assessed.* • *Measures taken to maximise sample recovery and ensure representative nature of the samples.* • *Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential*	• RC recovery was assessed via subjective assessment based on volume recovered. RC recovery information is recorded in the geologist logs and entered into the database. • Geologists were based at the RC rig, and inspected regularly to ensure procedures being used. RC samples were visually checked for recovery, moisture and contamination. RC recoveries were

Criteria	JORC Code explanation	Commentary
	loss/gain of fine/coarse material.	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. The cyclone and splitter were routinely cleaned ensuring no material build up. • The relationship between sample recovery and grade has not been investigated at this stage.
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.* • *Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.* • *The total length and percentage of the relevant intersections logged.*	• RC logging was completed on one metre intervals at the rig by the geologist. 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. • Logging was generally qualitative in nature. • All recovered intervals were geologically logged and entered into the database.
Sub-sampling techniques and sample preparation	• *If core, whether cut or sawn and whether quarter, half or all core taken.* • *If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.* • *For all sample types, the nature, quality and appropriateness of the sample preparation technique.* • *Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.* • *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.* • *Whether sample sizes are appropriate to the grain size of the material being sampled.*	• Not applicable - no core drilling. • RC samples were collected from the full recovered interval by rig mounted static cone splitter and screened using a handheld pXRF. Intervals selected for geochemical analysis had the full recovered interval re-split using a manual triple tier riffle splitter. Nearly all the samples were collected dry with a minor number being moist due to ground conditions or excessive dust suppression. Samples were split without drying. • The sample preparation techniques employed for the RC 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. • 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

Criteria	JORC Code explanation	Commentary
		mineralised zones. • At this stage of exploration, subsampling is limited to a manual triple tier riffle splitter. No QA/QC of the splitting method has been carried out. • No measures taken to ensure sample representative of in-situ material. Reliance on past adequate performance of method in similar deposits at the Browns Range Project. • The RC samples are 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.* • *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.* • *Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.*	• 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 • 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. The reading was on unprepared raw RC 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. • 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.

Criteria	JORC Code explanation	Commentary
		• Laboratory QAQC involves the use of internal lab standards using certified reference material, blanks, splits and replicates as part of the in-house procedures.
Verification of sampling and assaying	• *The verification of significant intersections by either independent or alternative company personnel.* • *The use of twinned holes.* • *Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.* • *Discuss any adjustment to assay data.*	• Internal verification of significant results by more than one company geologist. • Diamond drill hole BRDD0001 twinned the RC hole BRDR0014 (21m @ 2.15% TREO from 24m), and BRDD0002 twinned BRDR0010 (18m @ 9.1% TREO from 25m). Comparing the diamond drilling assays with the twinned RC drill hole assays, shows the interval in BRDD0001 as being narrower than the twinned RC drill hole but with much higher grade. For BRDD0002, the interval width is approximately the same as the twinned RC drill hole, but the grade is significantly lower than the RC drill hole. Details of these drill holes were reported in the ASX announcement "Dazzler returns best ever drill result at Browns Range" dated 3rd September. • 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 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. • The assay data were converted from reported elemental assays for a range of elements to the equivalent oxide compound as

Criteria	JORC Code explanation	Commentary
		applicable to rare earth oxides. Oxide calculations are completed by the laboratory and checked by Northern Minerals. No issues were identified. The oxides were calculated from the element according to the following factors below: CeO2 –1.2284, Dy2O3 – 1.1477, Er2O3 – 1.1435, Eu2O3 – 1.1579, Gd2O3 – 1.1526, Ho2O3 – 1.1455, La2O3 – 1.1728, Lu2O3 – 1.1371, Nd2O3 – 1.1664, Pr6O11 – 1.2082, Sm2O3 – 1.1596, Tb4O7 – 1.1421, Tm2O3 – 1.1421, Y2O3 – 1.2699, Yb2O3 – 1.1387
Location of data points	• *Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.* • *Specification of the grid system used.* • *Quality and adequacy of topographic control.*	• Drill collar locations were surveyed using high accuracy KGPS. Down hole surveys were conducted using a Reflex Gyro survey instrument at the completion of drilling where practical. Survey accuracy of both collars and down hole is considered acceptable for this preliminary stage. • The grid system used is MGA94 Zone 52. All reported coordinates are referenced to this grid. • Topographic control is based on drone photogrammetry corrected to known survey and LIDAR control. This is adequate for this stage of exploration.
Data spacing and distribution	• *Data spacing for reporting of Exploration Results.* • *Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.* • *Whether sample compositing has been applied.*	• Dazzler Prospect – 51 RC holes drilled in the current program, with most of the holes reported herein being infill holes on the current Inferred Mineral Resource. Holes drilled on Inferred Mineral Resource currently on a 25m x 20m spaced grid. All holes reported herein were drilled at 90 degrees (vertical). • Exploration Results only reported herein. • Sampling is on 1m intervals. Results have not been physically composited.
Orientation of data in relation to geological structure	• *Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.* • *If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.*	• All mineralisation at Dazzler is currently interpreted to be moderately dipping (30-40 degrees) to the southwest, roughly coincident with the contact between the Gardiner Sandstone and the Browns Range Metamorphics stratigraphic units, and striking northwest-southeast. Infill and exploration drilling have been conducted at -60 or -50 degrees dips drilled to an azimuth of 045

Criteria	JORC Code explanation	Commentary
		degrees, and as such drill holes intersect the mineralisation at acceptable angles. As such the orientation of drilling is not likely to introduce a sampling bias. • The orientation of drilling at Iceman and Dazzler with respect to mineralisation is not expected to introduce any sampling bias. There is insufficient drilling on the new target area between Iceman and Dazzler to confidently interpret the orientation of a potential mineralised zone. However, current knowledge, based on Iceman and Dazzler drilling, indicates that the orientation of drilling with respect to overall structural and lithological trends is not expected to introduce any sampling bias.
Sample security	• *The measures taken to ensure sample security.*	• Samples are collected on site under supervision of a responsible geologist and stored in bulka bags on site prior to transport by company truck or utility to Halls Creek commercial transport yard. The samples were stored in a secure area until loaded and delivered to Intertek Genalysis Laboratory in Perth. Laboratory dispatch sheets are completed and forwarded electronically as well as being placed within the samples transported. Dispatch sheets are compared against received samples and discrepancies reported and corrected.
Audits or reviews	• *The results of any audits or reviews of sampling techniques and data.*	• No audit/reviews have been conducted on the data reported herein.

Section 2 Reporting of Exploration Results

(Criteria listed in the preceding section also apply to this section.)

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*	• The Iceman and Dazzler prospects are located wholly within Exploration Licence E80/5041. 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 Jaru Native Title Claim is

Criteria	JORC Code explanation	Commentary
	known impediments to obtaining a licence to operate in the area.	registered over the Browns Range Project area and the fully determined Tjurabalan claim is located in the south of the project area. • The tenement is in good standing and no known impediments exist.
Exploration done by other parties	• *Acknowledgment and appraisal of exploration by other parties.*	• Prior to NTU, no previous systematic exploration for rare earth element mineralisation has been completed at Dazzler or Iceman. Regional exploration for uranium mineralisation was completed in the 1980s by PNC and in the 2000s by Areva but without success.
Geology	• *Deposit type, geological setting and style of mineralisation.*	• The Browns Range deposits (including Dazzler) 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 metasandstones 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). Both prospects are located on the edge of a small scarp adjacent to strong geochemical soil anomalies. The Dazzler prospect was first drilled in 2013, with seven RC drill holes completed at the base of the scarp slope. This drilling only intersected patchy mineralisation and appears, in the current interpretation, to have been drilled below the base of the main mineralisation. In 2018 an alternate geological hypothesis led Northern Minerals to drill the geochemical anomaly from the top of the escarpment. This intersected extremely encouraging mineralisation within the Gardiner Sandstone and adjacent to the unconformity with the underlying Browns Range Metamorphics. Mineralisation is related to the presence of hydrothermal xenotime. Petrographic analysis of RC samples confirmed xenotime mineralisation.
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*	• See Table 1 in the body of text above and Appendix 1.

Criteria	JORC Code explanation	Commentary
	○ *elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar* ○ *dip and azimuth of the hole* ○ *down hole length and interception depth* ○ *hole length.* • *If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.*	
Data aggregation methods	• *In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg 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 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 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 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. • 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 (eg 'down hole length, true width not known').*	• All mineralisation at Iceman and Dazzler is currently interpreted to be moderately dipping (30-40 degrees) to the southwest, roughly coincident with the contact between the Gardiner Sandstone and the Browns Range Metamorphics stratigraphic units, and striking northwest-southeast. Infill and exploration drilling have been conducted at -60 or -50 degrees dips drilled to an azimuth of 045 degrees, and as such drill holes intersect the mineralisation at a high angle (close to 90 degrees – see Figure 1 in body of text above). There is insufficient drilling on the new target area between Iceman and Dazzler to confidently interpret the orientation of a potential mineralised zone. However, current knowledge, based on Iceman and Dazzler drilling, indicates that the orientation of drilling

Criteria	JORC Code explanation	Commentary
		with respect to overall structural and lithological trends is at a high angle to the mineralised zone and similar to that seen at Dazzler.
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 1 and 2 in the body of the text above.
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 current drillholes have been reported, including those with "No Significant Results". Holes with "No Significant results" are acknowledged in Table 1 and in the body of the text above.
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.*	• Dazzler and Iceman have previously had RC drilling with seven drill holes completed at Dazzler in 2013, 13 holes in 2018 and nine holes in 2018 at Iceman. Details of these drilling programs were reported in the ASX announcements "Further Discoveries Reinforce Exploration Potential at Browns Range" dated 15 October 2014, "Preliminary drilling results at Dazzler and Iceman highlight extensive new exploration target" dated 2 August 2018, "Assay results confirm Dazzler and Iceman discoveries" dated 11 September 2018. An Exploration Target has been estimated for both Iceman and Dazzler which was reported in the ASX announcement "Northern Minerals reaps benefits from exploration at Dazzler and Iceman" dated 3 December 2018. Most recently a maiden Inferred Mineral Resource Estimate was completed for Dazzler and reported in the ASX announcement dated 6 March 2019 and entitled "Dazzler shines with high-grade Maiden Minera Resource". • In 2019 further RC drilling and diamond drilling were completed at the Dazzler deposit. In May 2019, 17 RC drillholes for 1143m and 3 diamond drill holes were completed at Dazzler. Details of these drilling programs and results were provided in the ASX announcements "High grades from Dazzler, Iceman diamond drilling" dated 21 August and "Dazzler returns best ever drill result

Criteria	JORC Code explanation	Commentary
		at Browns Range" dated 3rd September
Further work	• *The nature and scale of planned further work (eg 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.*	• Follow-up drilling is planned for the Dazzler deposit, which will be infill and extension/step-out drilling plus metallurgical and geotechnical drilling. Some of this drilling is set to commence in November/December 2019. • Refer to Figure 1 in the body of text above.

Section 3 Estimation and Reporting of Mineral Resources

Not applicable

Section 4 Estimation and Reporting of Ore Reserves

Not applicable