Northern Minerals initial JORC compliant resource estimate

Highlights:

- Initial JORC compliant resource estimate at Browns Range project, with **1.44Mt @ 0.73% TREO** at Wolverine deposit including dysprosium grades averaging 728ppm within the Indicated Resource.
- Resource dominated by high value dysprosium and yttrium – HREO comprises 89% of TREO within the Indicated Resource.
- Work commenced on increasing resource at Wolverine, including significant deep drilling program targeting mineralisation below 150m vertical depth.
- 2013 exploration program to expand global resource targeting Gambit Central, Gambit West and Area 5.
- Metallurgical results to date have produced a 30% mineral concentrate.

Northern Minerals (ASX: NTU) is pleased to announce the initial JORC compliant resource estimate for the Wolverine prospect at its Browns Range Project in northern Australia.

AMC Consultants Pty Ltd was commissioned by Northern Minerals to complete an independent estimate of Mineral Resources at the Wolverine deposit. A summary of the Mineral Resource estimate is provided as an attachment "Browns Range Rare Earth Project Mineral Resource Statement".

The Total Mineral Resource at Wolverine is estimated at 1.44Mt @ 0.73% TREO comprising 10,500t TREO using a cut-off grade of 0.15% TREO.

Details of the classification of the total resource into Indicated and Inferred resource categories are as follows:

Category	Mt	TREO %	Dy_2O_3 ppm	Y_2O_3 ppm	HREO %	TREO Tonnes
Indicated	0.90	0.82	728	4,739	89	7,400
Inferred	0.54	0.57	495	3,185	81	3,100
Total[1]	1.44	0.73	640	4,153	84	10,500

[1] **Rounding may cause some computational discrepancies**
TREO = Total Rare Earth Oxides – La_2O_3, CeO_2, Pr_6O_{11}, Nd_2O_3, Sm_2O_3, Eu_2O_3, Gd_2O_3, Tb_4O_7, Dy_2O_3, Ho_2O_3, Er_2O_3, Tm_2O_3, Yb_2O_3, Lu_2O_3, Y_2O_3
HREO = Heavy Rare Earth Oxides – Total of Sm_2O_3, Eu_2O_3, Gd_2O_3, Tb_4O_7, Dy_2O_3, Ho_2O_3, Er_2O_3, Tm_2O_3, Yb_2O_3, Lu_2O_3, Y_2O_3

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A standout feature of the Wolverine resource is the dominance of the high value dysprosium and yttrium elements with average grades of 640ppm and 4,153ppm respectively within the Total (Indicated and Inferred) Resource. The Heavy Rare Earths (HRE) percentage of the Total Rare Earths is 89% (Indicated Resource) which is due to the predominance of the mineral xenotime. This differentiates the Browns Range project from the majority of global HRE projects that are either in or near production.

Northern Minerals Managing Director George Bauk said, "The release of the JORC compliant resource estimate was a significant milestone for Northern Minerals and its shareholders."

"There is still further potential to increase the Wolverine resource, with the initial resource restricted in many aspects by drilling and not the extent of mineralisation. The last resource drill hole at Wolverine finished in mineralisation of 11m @ 2.25% TREO including 2,189ppm Dy_2O_3 to a depth of 279m down hole"

"We are already underway with additional work to upgrade and extend the resource at Wolverine, as well as targeting new resources at other prospects such as West Gambit.

Resource Details

The Wolverine HRE deposit is dominated by xenotime mineralisation which occurs within hydrothermal silicified and hematitic breccias. Resource drilling has outlined mineralisation over a strike length of 250m (see Figure 1 below) and a vertical depth of 250m, however, the majority of the drilling is within the top 150m. The resource has a well defined high grade (>1% TREO) central zone which is open at depth (see Figure 2 below). At the cut-off grade of 0.15% TREO, the Indicated Resource has an average grade of 728ppm Dy_2O_3 and 4739ppm Y_2O_3 with an HREO/TREO percentage of 89%.

The average grades of U_3O_8 and ThO_2 within the Total Resource (Indicated and Inferred) are 26ppm and 28ppm respectively. Further details of the proportions of individual Rare Earth oxides and the resource estimates at a range of cut-off grades are provided in the AMC summary report attached at the end of this document.

Figure 1 – Wolverine Deposit Plan Section – 400m RL Block Model (approximately 50m below surface)

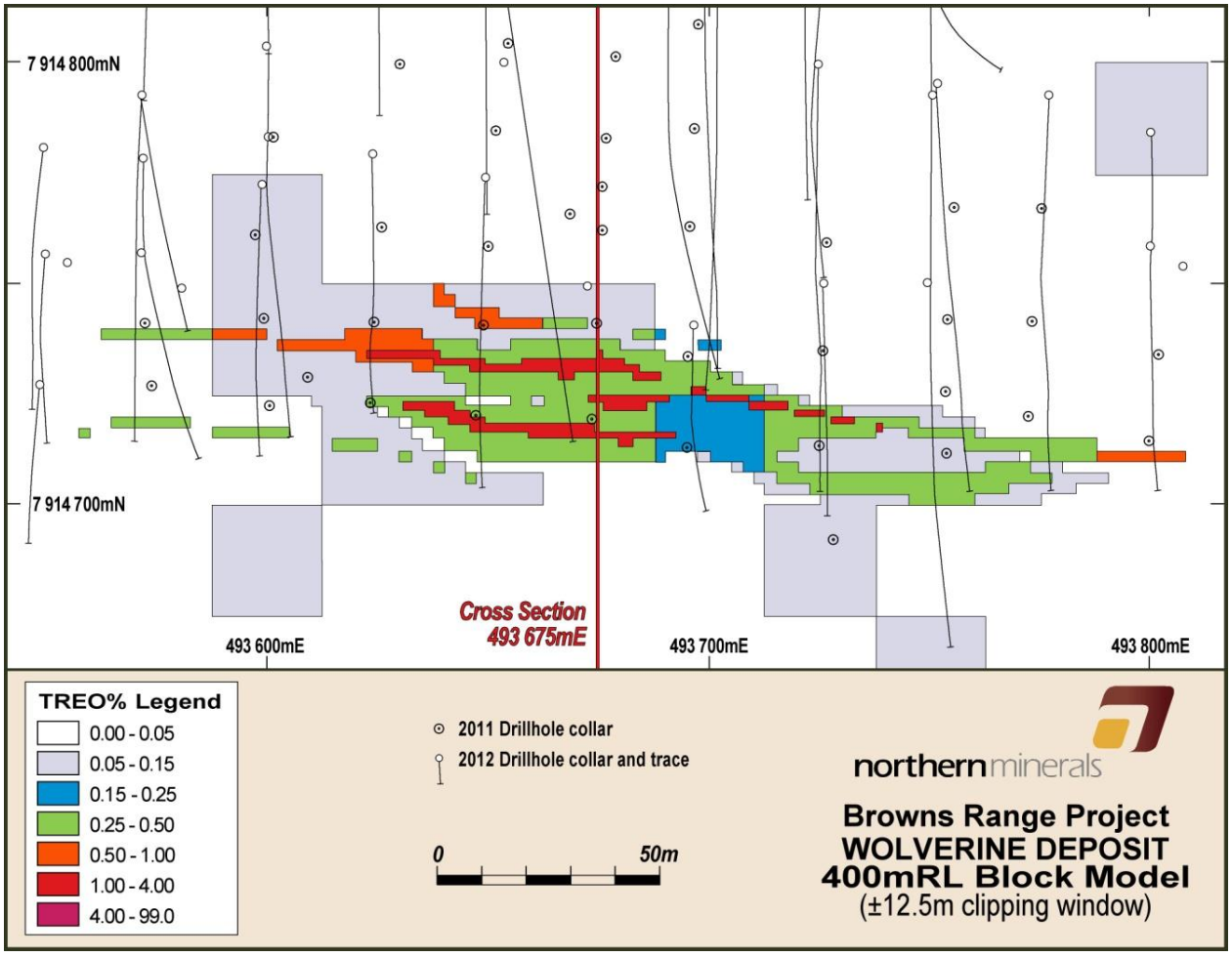
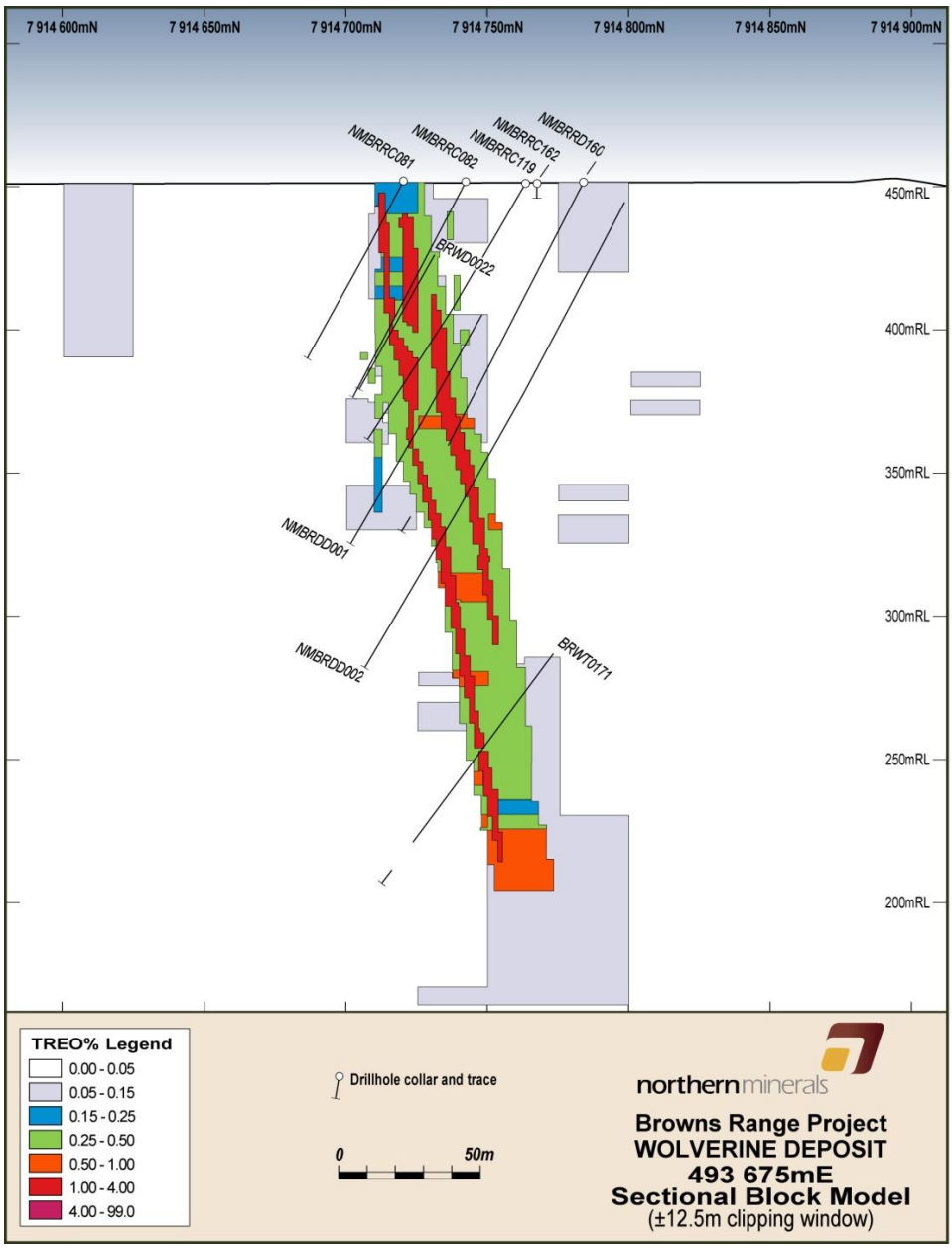


Figure 2 – Wolverine Deposit Cross Section 493675E Block Model



Next Steps

In 2013, the Company's exploration program will be focused on expanding the global resource at the project by an additional 10,000 - 20,000 tonnes TREO. To achieve this, the priority targets will be Wolverine, Gambit Central, Gambit West and Area 5.

Further drilling is planned to target additional mineralisation at Wolverine below 150m depth and to convert the deeper Inferred Resource to Indicated. Drilling is also proposed to commence at the earliest opportunity at the Gambit West prospect to define additional mineral resources by the end of 2013. The potential quantity of TREO targeted is based solely on existing drilling results

from 2011 and 2012 at Wolverine, Gambit Central, Gambit West and Area 5 prospects. The target, however, is still conceptual in nature and there has been insufficient exploration to define a Mineral Resource at Gambit Central, Gambit West and Area 5. It is uncertain if further exploration will result in the determination of a Mineral Resource at these prospects.

The Company has a pipeline of additional prospects which it will also continue to test, in order to build a significant mineral inventory in the Browns Range region.

Figure 3 – Pipeline of Prospects

Metallurgical Studies

Northern Minerals is well advanced with its metallurgical studies, which have delivered highly encouraging results to date. Beneficiation test work undertaken at NAGROM has confirmed that the Browns Range xenotime mineralisation can be processed using a relatively simple flowsheet consisting of crushing, grinding , magnetic separation and flotation to produce a high grade mineral concentrate containing 30% TREO. Optimisation test work of the beneficiation circuit is currently underway at NAGROM and, under the direction of Kwan Wong, at the Ian Wark Research Institute at the University of South Australia on PQ diamond core samples from the Wolverine deposit.

Preliminary hydrometallurgical study results released in August 2012, indicated the Browns Range mineral concentrate is well suited to the production of a high purity mixed chemical oxide concentrate. Based on these results, Tenova Bateman developed a conceptual hydrometallurgical flowsheet that includes conventional unit processes of sulphation bake, water leaching, purification, oxalate precipitation and calcination. Laboratory scale confirmation test work of this

flowsheet is currently underway at NAGROM and ALS Metallurgy in Perth, following which optimisation test work of the hydrometallurgical flowsheet will be undertaken.

Having a high-grade mineral concentrate (30% TREO) significantly reduces the mass of material at the hydrometallurgy processing stage which, in turn, greatly reduces both capital and operating costs of the process in producing high purity chemical oxide concentrate.

The Company has commenced scoping and feasibility studies with a target for first production of 2015.

Competent Persons Declaration:

Information that relates to exploration results and geological interpretation has been compiled by the Company and is based on information provided by Robin Wilson, an employee of Northern Minerals, who is a member of the Australasian Institute of Mining and Metallurgy. All information of this type is expressed in terms of the 2004 edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves". Robin Wilson has sufficient experience which is 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 2004 edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves". Mr Wilson consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

The information in this report relating to Mineral Resources was compiled by Mr John Tyrrell who is a Member of the Australasian Institute of Mining and Metallurgy. Mr Tyrrell is a full time employee of AMC 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 2004 Edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (the JORC Code). Mr Tyrrell consents to the inclusion of this information in the form and context in which it appears.

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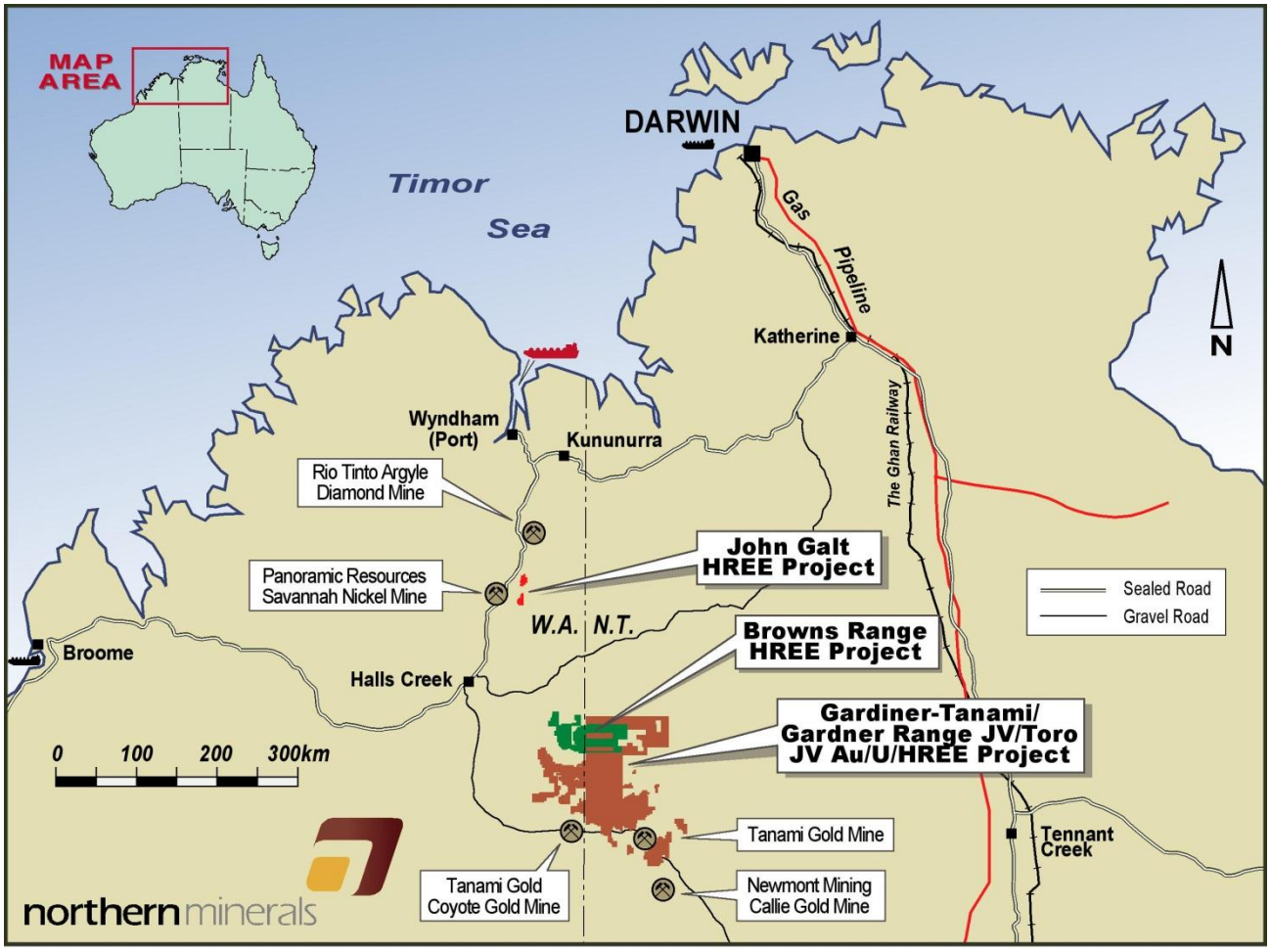
About Northern Minerals

Northern Minerals Limited (ASX: NTU) is focused on development of rare earth elements (REE), with a large and prospective landholding in Western Australia and the Northern Territory.

The Company's flagship project is Browns Range, where it has a number of prospects with high value, heavy rare earth elements (HREE), in xenotime mineralisation. In particular, the mineralisation includes high levels of dysprosium and yttrium, which are in short supply globally. Following outstanding results from its drilling and metallurgical programs, the Company is aiming to deliver its maiden JORC resource by the end of 2012, and advance Browns Range toward production, using a relatively simple and low cost processing flow sheet to produce a high grade concentrate. Northern Minerals also has a HREE exploration program underway at the geologically similar John Galt project.

Northern Minerals also holds a number of non-REE assets, including the large and prospective Gardiner-Tanami project and Gardner Range JV project on the WA-NT border. The projects are located within the world-class Tanami-Arunta gold region and have a number of early stage gold targets. Northern Minerals is currently pursuing divestment options for these assets. For more information, visit www.northernminerals.com.au



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20 December 2012

Mr Robin Jones
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Dear Robin

BROWNS RANGE RARE EARTH PROJECT
MINERAL RESOURCE STATEMENT
AMC PROJECT: 212088

At the request of Northern Minerals Limited (NTU[1]), AMC Consultants Pty Ltd (AMC) has completed a Mineral Resource estimate for the Wolverine deposit of the Browns Range Rare Earth Project in Western Australia. The Mineral Resource estimate, classified and reported in accordance with the JORC Code[2], is summarised in Table 1. The estimate has been reported at a 0.15% cut-off grade (COG) applied to total rare earth oxide (TREO) grade as advised by NTU. TREO includes yttrium. The ratio of heavy rare earth oxides to total rare earth oxides is also reported, expressed as a percentage (HREO%). The heavy rare earth oxides represented by this percentage are Sm, Eu, Gd, Tb, Dy, Ho, Er, Tm, Yb, Lu and Y.

Table 1 Wolverine Rare Earth Deposit Mineral Resource Estimate at 19 December 2012 Reported at 0.15% REO COG

Category	Tonnes (Mt)	TREO[1] (%)	Y_2O_3 (ppm)	Dy_2O_3 (ppm)	U_3O_8 (ppm)	ThO_2 (ppm)	HREO%
Indicated Resource	0.90	0.82	4739	728	28	27	89
Inferred Resource	0.54	0.57	3185	495	22	28	81
Total Resource[2]	1.44	0.73	4153	640	26	28	84

1 TREO includes yttrium (Y)
2 Rounding may cause some computational discrepancies.

The Mineral Resource estimate reported at a range of rare earth oxide (REO) COGs is listed in Table 2.

1 NTU is Northern Minerals Limited's Australian Securities Exchange code.
2 Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves, The JORC Code 2004 Edition, Effective December 2004, Prepared by the Joint Ore Reserves Committee of the Australasian Institute of Mining and Metallurgy, Australian Institute of Geoscientists and Minerals Council of Australia (JORC).

Table 2 Wolverine Rare Earth Deposit Mineral Resource Estimate Reported at a Range of TREO COGs

COG (%)	Tonnes (Mt)	TREO[1] (%)	Y_2O_3 (ppm)	Dy_2O_3 (ppm)	U_3O_8 (ppm)	ThO_2 (ppm)
0.10	1.6	0.66	3729	575	24	27
0.15	1.4	0.73	4153	640	26	28
0.25	1.3	0.79	4544	700	28	28

[1] TREO includes yttrium (Y)

The Mineral Resource estimate is based on assays from reverse circulation (RC) and diamond drilling and geological interpretation completed by NTU. AMC has carried out geostatistical analysis and estimated grades.

Table 3 lists the percentage ratios of all of the individual REOs at Wolverine.

Table 3 Wolverine Mineral Resource Individual REO Proportions at 0.15% TREO COG

REO	Indicated	Inferred	Total Resource
La_2O_3	2.00	3.82	3.27
CeO_2	4.85	9.09	7.73
Pr_6O_{11}	0.69	1.16	1.01
Nd_2O_3	3.17	4.69	4.19
Sm_2O_3	2.09	2.18	2.11
Eu_2O_3	0.44	0.44	0.43
Gd_2O_3	5.44	5.48	5.28
Tb_4O_7	1.27	1.25	1.22
Dy_2O_3	8.83	7.95	8.21
Ho_2O_3	1.90	1.79	1.80
Er_2O_3	5.59	5.21	5.27
Tm_2O_3	0.80	0.73	0.75
Yb_2O_3	4.81	4.34	4.48
Y_2O_3	57.46	51.25	53.62
Lu_2O_3	0.67	0.61	0.62

GEOLOGY

The Wolverine heavy rare earth deposit is located at NTU's Browns Range Project, 150 km south-east of Halls Creek in Western Australia, adjacent to the Northern Territory border.

Regionally, the Wolverine hydrothermal xenotime breccias are located on the western side of the Browns Range Dome, a Palaeoproterozoic dome formed by a granitic core intruding the Palaeoproterozoic Browns Range Metamorphics (meta-arkoses, feldspathic metasandstones, and schists). The dome and its aureole of metamorphics are surrounded by the Mesoproterozoic Gardiner Sandstone (Birrindudu Group).

Locally, at Wolverine, the hosting Browns Range Metamorphics are a variable sequence of meta quartz-lithic and arkosic arenites and conglomerates with minor interbedded schists. The host rocks in the mineralised zone are silicified and brecciated along structures trending between east-west and 290º and dipping steeply to the north.

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

Mineralogical examination shows the heavy rare earth mineralisation is xenotime (YPO_4). The Florencite ($(Nd,La,Ce)Al_3(PO_4)_2(OH)_6$) - Goyazite ($Sr\ Al_3(PO_4)_2(OH)_5.H_2O$) series are the only other rare earth element minerals recognised to date.

DRILLHOLE DATA

Exploration and resource definition drilling at Wolverine has concentrated on an area of approximately 650 m by 200 m. The area has minor outcrop, with the discovery outcrop being 13 m in length in an east-west direction by 5 m wide. The outcropping mineralisation trends below transported sediments deposited to a depth of 0.5 m to 10 m.

Drilling for the resource estimate commenced in July 2011 for a total of:

- 81 RC drillholes for 8125 m.
- 22 diamond drillholes (HQ3 and NQ2 diameter core) from surface for 3307.6 m.
- 12 holes with RC pre-collars and diamond tails for 2486.4 m.

The deposit is nominally drilled on 25 m spaced lines, with 20 m to 25 m spacing between holes and at a dip of 60º to the south. The mineralisation extends to more than 250 m vertical depth and has an approximate strike length of 250 m.

Drillhole collars were accurately surveyed using a differential global positioning system and down-hole surveys were completed by both the drill company and where re-entry was possible, at the completion of drilling by downhole probe.

All holes were geologically logged. Geology and a portable X-ray fluorescence analyser were used as discriminators for analytical sample selection. Three to ten metres of host rock immediately adjacent to mineralisation were also sent for laboratory analysis. While RC samples were analysed over 1 m down-hole widths, diamond holes were sampled to geological boundaries, over a range of 0.5 m to 2.5 m intervals. Core was photographed and half-core samples were cut for laboratory analysis.

A total of 1,814 bulk density determinations were completed on whole drill core (nominally 20 m intervals) using the water immersion technique on diamond drill core. Of these, 213 samples were sent to Genalysis for check determination. Statistically outlier bulk density values were filtered out from the database for results below 2 t/m^3 and above 3 t/m^3.

Genalysis Perth was the preferred laboratory for analysis. A total of 4,915 routine analyses for Ce, La, Pr, Nd, Sm, Eu, Gd, Tb, Dy, Ho, Er, Tm, Yb, Lu, Y, Sc, Al, Fe, U and Th were completed for the resource estimate. The assay technique used involves fusing the pulverised material (nominally 85% passing 75µm) with sodium peroxide flux in nickel crucibles, dissolving the fusion product in a four acid digest, then analysing a diluted solution

by inductively coupled plasma (ICP) spectroscopy using mass spectroscopy (ICP-MS) and optical emission spectroscopy (ICP-OES).

NTU conducts quality assurance/quality control (QA/QC) procedures consistent with industry practice consisting of the following:

- One in twenty field duplicates.
- 157 mineralised samples for inter-laboratory check assays.
- Check twinning of RC drilling with diamond core.
- Five certified reference material samples were introduced late in the 2012 drill programme, however, only two to four results have currently been received from each laboratory for each standard.

Some check assays are awaited for anomalous results or where duplicates varied by more than two standard deviations.

Inter-laboratory checks show there is generally very good correlation between Genalysis and both of the secondary laboratories. There are, however, two discrepancies:

- In the higher grade results (greater than 5% TREO), both secondary laboratories report slightly higher results than Genalysis and the relative difference is increasing with increasing grade. Yttrium may be the main element causing these problems and requires further investigation.
- One of the secondary laboratories has results greater than 1% TREO consistently above both Genalysis and the other secondary laboratory.

GEOLOGICAL INTERPRETATION

The model included information from geological and structural logging of drilling completed in 2011/2012, geochemical data, and local surface mapping. The cross-sectional interpretation and wireframing were provided by NTU and involved an iterative review process.

The geometry of the overall structure (main zone) was defined by silicification. Internally, the mineralisation is more complex due to the nature of the brecciation. The heavy rare earth to total rare earth ratio and geological logging was used to define continuity of xenotime mineralisation within the silicification and brecciation. Structural data from diamond drilling confirmed the overall east-west to 290º trend.

Recent sub-vertical metallurgical diamond drilling (not reported as part of this resource estimate) shows minor xenotime mineralisation sub-parallel to regional bedding/foliation, hence, the sub-horizontal interpretation of mineralisation on cross section 493700 mE.

The hangingwall and footwall mineralisation does not have the same degree of silicification and brecciation as the main zone. The hangingwall mineralisation is located adjacent to the wider portion of the main zone. The footwall mineralisation is partly outcropping and has an anastomosing character.

GRADE ESTIMATION

Grades were estimated for combined rare earth elements (REE), yttrium, dysprosium, uranium and thorium. The suite of REE elements is La, Ce, Pr, Nd, Sm, Eu, Gd, Tb, Dy, Ho, Er, Tm, Yb, Lu and Y.

Grades were estimated in six grouped domains defined by the geological interpretation and drillhole data. The domains were constrained by the interpreted wireframes for mineralisation, silica alteration, waste rock geology and oxidation state.

The Browns Range block model has parent block dimensions of 25 mE x 25 mN x 5 mRL. The drillhole spacing in the better drilled central area of the deposit is about 25 mE by 25 mN. The spacing increases through 25 mE by 50 mN to a maximum of about 100 mE by 75 mN at the extremities.

Assays were composited to 1 m. A total of 5,777 composites are used in the grade estimation. Top-cuts were applied to most domains for all elements, but were generally very modest, usually being above the 99th percentile.

Univariate statistics and experimental variography were completed to develop estimation parameters.

Grades were estimated into mineralisation domains and into the background model using ordinary kriging. Grades were estimated into parent cells, with all sub-cells receiving the same grade as their parent cells. Estimation was completed in three passes, with cells not estimated in the first pass being estimated in subsequent passes using an expanded search ellipse.

Dry bulk density was assigned to the model using physical determinations completed by NTU personnel on site and from the primary assay laboratory. Densities were assigned by averaging values selected by the mineralisation wireframes within each oxidation state. The average bulk density for the resource estimate is 2.55 t/m^3.

The Mineral Resource classification is based on drillhole spacing, the number of composites used in the estimate, the quality of the estimate and confidence in the interpretation. The estimate is classified as Indicated or Inferred Resource as defined in the JORC Code using an interpreted boundary. Parts of the estimate poorly supported by drilling have not been classified as a Mineral Resource.

The estimated individual REE element grades have been converted to oxides by applying factors as listed in Table 4. Estimated U grades have been converted to U_3O_8 by applying a factor of 1.1792 and estimated Th grades have been converted to ThO_2 grades by multiplying by a factor of 1.1379.

Table 4 Element to Oxide Conversion Factors

Oxide	Factor
CeO_2	1.2284
Dy_2O_3	1.1477
Er_2O_3	1.1435
Eu_2O_3	1.1579
Gd_2O_3	1.1526
Ho_2O_3	1.1455
La_2O_3	1.1728
Lu_2O_3	1.1371
Nd_2O_3	1.1664
Pr_6O_{11}	1.2082
Sm_2O_3	1.1596
Tb_4O_7	1.1762
Tm_2O_3	1.1421
Y_2O_3	1.2699
Yb_2O_3	1.1387

The estimate was validated by visual comparison of drillhole assays with block model grades and comparison of average composite and estimated grades over easting and level.

JORC CODE COMPLIANCE STATEMENT

The information in this report relating to exploration results and geological interpretation 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 NTU 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 2004 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.

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Yours sincerely

John Tyrrell
Senior Geologist