ASX RELEASE

9 December 2014

NOLANS BORE MINERAL RESOURCES

Australian Rare Earths company, **Arafura Resources Limited** (**ASX: ARU**) ("**Arafura**" or the "**Company**") advises that it has updated its estimate of Mineral Resources for the Company's 100 per cent-owned Nolans Bore deposit in the Northern Territory.

The estimate complies with the 2012 edition of the JORC Code, replacing the previous estimate reported under the 2004 edition (ASX: ARU 08/06/12). This re-reporting exercise has resulted in no material change to the estimate. Classification of total resources at Nolans Bore into Measured, Indicated and Inferred Resource categories, using a 1.0% REO cut-off grade, is shown below. Contained (in-situ) resources of Rare Earths, Phosphate and Uranium are also shown.

RESOURCES	TONNES (million)	RARE EARTHS REO %	TONNES REO	PHOSPHATE P_2O_5 %	TONNES P_2O_5	URANIUM U_3O_8 lb/t	TONNES U_3O_8
Measured	4.3	3.3	144,000	13	572,000	0.57	1,120
Indicated	21	2.6	563,000	12	2,614,000	0.42	4,090
Inferred	22	2.4	511,000	10	2,220,000	0.37	3,610
TOTAL	47	2.6	1,217,000	11	5,407,000	0.41	8,830

Numbers may not compute exactly due to rounding. REO grade excludes Yttrium (Y). Rounding errors for in-situ Indicated and Total tonnes of P_2O_5 have been corrected from the June 2012 estimate.

All material used in the preparation of this updated estimate is provided in the report *JORC 2012 Statement of Estimated Mineral Resources for the Nolans Bore REE-P-U deposit, Northern Territory, Australia,* which is appended to this release.

AN EMERGING RARE EARTHS PRODUCER FOR USERS WORLDWIDE

- ENDS -

For further information contact:

Gavin Lockyer
Managing Director
T: +61 8 6210 7666

Media enquiries:

Rebecca Lawson
Media+Capital Partners
M: +61 433 216 269

Competent Persons' Statement

The information in this report that relates to Exploration Results is based on information compiled by Mr Kelvin Hussey, a Competent Person who is a Member of the Australian Institute of Geoscientists. Mr Hussey is a full time employee of Arafura Resources Limited. Mr Hussey has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken 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. Mr Hussey 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 that relates to Mineral Resources is based on information compiled by Mr John Tyrrell, a Competent Person who is a Member of Australasian Institute of Mining and Metallurgy. Mr Tyrrell is a full time employee of AMC Consultants Pty Ltd. Mr Tyrrell has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken 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. Mr Tyrrell consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

ABN 22 080 933 455

Report ARU-14/011

JORC 2012 STATEMENT OF ESTIMATED MINERAL RESOURCES FOR THE NOLANS BORE REE-P-U DEPOSIT, NORTHERN TERRITORY, AUSTRALIA. 9 DECEMBER 2014.

By

Kelvin James Hussey (Arafura Resources Ltd)
BSc Hons, MAIG

and

John Tyrrell (AMC Consultants Pty Ltd)
BSc Hons, MAusIMM

 9 December 2014

Perth Office: Level 3/263 Adelaide Tce, Perth WA 6000 ■ PO Box 5773, St Georges Tce, Perth WA 6831 ■ T: +618 6210 7666 ■ F: +618 9221 7966
Darwin Office: 18 Menmuir St, Winnellie NT 0820 ■ PO Box 37220, Winnellie NT 0821 ■ T: +618 8947 5588 ■ F: +618 8947 5599
■ E: arafura@arultd.com■ W: www.arultd.com

TABLE OF CONTENTS

EXECUTIVE SUMMARY

In 2012, AMC Consultants ("AMC") completed a Mineral Resource estimate for the Nolans Bore REE-P-U deposit for Arafura Resources Limited ("Arafura"), which was reported and classified based on the guidelines of the 2004 edition of the JORC Code.

The statement of Mineral Resources for the Nolans Bore deposit is herein updated to be in accordance with the guidelines on the 2012 edition of the JORC Code. This report provides an updated assessment of the relevant criteria outlined in Table 1 of the 2012 JORC Code and Section 5.8 of the ASX listing rules. This report forms an addendum to AMC's detailed technical report entitled "Nolans Bore Resource Estimate", dated 27 August 2012.

The Nolans Bore, rare earth element (REE), phosphorus (P), uranium (U) deposit is located about 135 km north-north-west of Alice Springs, near Aileron Roadhouse in the Northern Territory.

The mineralisation at Nolans Bore is a three-dimensional, hydrothermal stockwork vein- style deposit. Recent extensive infill reverse circulation (RC) and diamond core drilling outside the deposit's central north zone has demonstrated that the geometry of the mineralised system is more complex than previously thought. AMC, in conjunction with Arafura geologists, completed a wireframed interpretation of the Nolans Bore deposit and used this to subset the Nolans Bore drillhole data, create a new volume model, and generate a new Mineral Resource estimate.

Table 1 shows the reported 2012 Mineral Resource for the Nolans Bore deposit above a 1% rare earth element oxide (REO) cut-off.

Table 1: Nolans Bore Rare Earth Deposit Mineral Resource Estimate at 9 December 2014 reported at 1% REO Cut-Off

Category	Tonnes (Mt)	REO (%)[1]	P_2O_5 (%)	U_3O_8 (%)[2]
Measured Resource	4.3	3.3	13	0.03
Indicated Resource	21	2.6	12	0.02
Inferred Resource	22	2.4	10	0.02
Total Resource[3]	**47**	**2.6**	**11**	**0.02**

1 REO does not include yttrium (Y)

2 Calculated from U_3O_8 using the conversion 1 lb/t = 0.0454% U_3O_8

3 Rounding might cause some computational discrepancies

The interpreted wireframes were grouped into areas defined by position, geological interpretation, and oxidation state. Eight numerically coded ZONECODE divisions were created. The drillholes and volume model were flagged with the ZONECODE codes. Each ZONECODE division had different estimation, search, and variogram parameters to allow for independent estimation. Estimation of grade was completed in two stages, with the primary elements of interest, REE%, P%, and U% estimated first. The individual REEs (Ce, Dy, Er, Eu, Gd, Ho, La, Lu, Nd, Pr, Sm, Tb, Tm, and Yb) were estimated in the second stage, along with Y, although Y was not included as part of the total REO grade. For reporting, the total REE% grade was multiplied by a factor of 1.20 to get a total REO% grade.

The Mineral Resource estimate reported at a range of cut-off grades is listed in Table 2 below.

Table 2: Nolans Bore Rare Earth Deposit Mineral Resource Estimate reported at a range of REO Cut-Off Grades

Cut-off (REO%)[1]	Tonnes (Mt)	REO (%)[2]	P2O5 (%)	U3O8 (%)	U3O8 (lb/t)[3]
0.5	48	2.6	11	0.02	0.41
1.0	47	2.6	11	0.02	0.41
1.5	43	2.7	12	0.02	0.43

1 The Mineral Resource Estimate has been classified on the basis of a 1% REO cut-off and the classification might not be appropriate at other grade cut-offs.
2 REO does not include yttrium (Y).
3 Calculated from U_3O_8 using the conversion 1 lb/t = 0.0454% U_3O_8

The resource classification is based upon a 1% REO cut-off and might not be applicable at other cut-off grades.

The estimated REE% grades were converted to reported REO% grades by multiplying by a factor of 1.20. Reported U_3O_8 grades are converted from estimated U% grades by multiplying by a factor of 1.1792 and reported P_2O_5 grades converted from estimated P% grade by multiplying by a factor of 2.2914. Reported U_3O_8 lb/t grades are converted from U_3O_8 % grades by dividing by a factor of 0.0454.

Figure 1 shows a grade tonnage curve for REO% for the total Nolans Bore Mineral Resource, including all classified material.

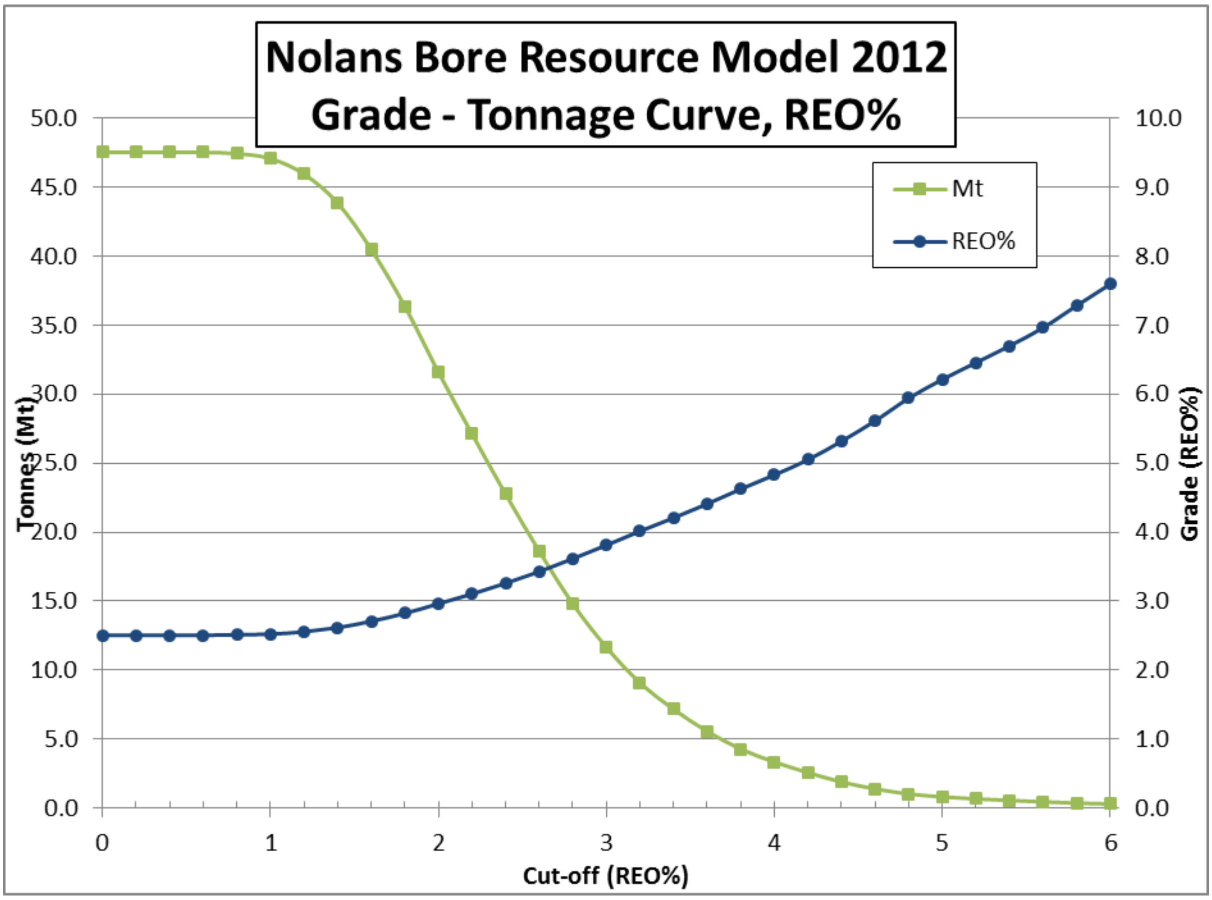

Figure 1: Grade-tonnage curve for the total Nolans Bore Mineral Resource including all classified material.

Average grades for each individual REE are presented as Table 3. The results are presented for the total Mineral Resource as well as broken down by individual resource classification. Table 3 shows the reported tonnes and grade at a 1% REO cut-off.

Table 3: Individual REE grades reported by Resource Classification at a 1% REO Cut-Off

Individual REE Grades (all in ppm)															
Resource Classification	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu	Y
Measured	5,562	13,433	1,642	5,915	676	113	282	20.3	98	13.9	24.8	3.3	17.3	2.1	393
Indicated	4,345	10,624	1,322	4,750	530	89	228	18.4	73	10.1	21.1	2.3	12.5	1.5	277
Inferred	3,945	9,555	1,179	4,238	475	81	210	17.5	68	9.4	20.6	2.2	12.0	1.5	258
All	4,274	10,393	1,286	4,623	518	88	225	18.1	73	10.1	21.2	2.3	12.7	1.5	279

INTRODUCTION

In 2012, AMC Consultants ("AMC") completed a Mineral Resource estimate for the Nolans Bore REE-P-U deposit for Arafura Resources Limited ("Arafura"), which was reported and classified based on the guidelines of the 2004 edition of the JORC Code. A public release of this Mineral Resource estimate was made to the ASX (Australian Securities Exchange) on 12 March 2012 with an updated revision with slight amendments announced on 6 June 2012. A detailed technical report outlining the 2012 Mineral Resource estimate and supporting information is documented in AMC (2012) and Hussey (2012), respectively.

The statement of Mineral Resources for the Nolans Bore deposit is herein updated to be in accordance with the guidelines on the 2012 edition of the JORC Code. Most information in this report is drawn from AMC (2012) and Hussey (2012) as primary sources without reference, however additional information is supplied in a number of instances to ensure statements made in this report are in accordance with the 2012 edition of the JORC Code. No additional resource estimation work has been undertaken on the project since the 2012 reporting date.

The Nolans Bore deposit is located about 135 km northwest of Alice Springs in the Northern Territory, Australia. The Nolans Bore deposit is a complex three-dimensional hydrothermal vein-style REE deposit hosted by metamorphosed rocks of the Aileron Province, Arunta Region. The geological model is a simplified representation of the complex enveloping surface that encompasses all significant intersections of identified mineralisation with a grade of 0.5% REE or more. The geological model was developed by Arafura using sectional interpretations, and wireframed by AMC with substantial input from Arafura. AMC has estimated REE, La, Ce, Pr, Nd, Sm, Eu, Gd, Tb, Dy, Ho, Er, Tm, Yb, Lu, Y, P, U and Th block grades using ordinary kriging and has reported the tonnes and grade using a 1% REO lower grade cut-off.

This report provides an updated assessment of the relevant criteria outlined in Table 1 of the 2012 JORC Code and Section 5.8 of the ASX listing rules. This report forms an addendum to AMC's detailed technical report entitled "Nolans Bore Resource Estimate", dated 27 August 2012.

GEOLOGY AND GEOLOGICAL INTERPRETATION

The Nolans Bore deposit is hosted by metamorphosed sedimentary and igneous rocks of the Aileron Province, Arunta Region (Figure 2).

The mineralisation at Nolans Bore is a complex three-dimensional, hydrothermal stockwork vein-style deposit. Extensive infill reverse circulation (RC) and diamond core drilling outside the deposit's central north zone in 2011 demonstrated that the geometry of the mineralised system is more complex than previously thought, because unlike the central north zone, not all mineralised veins trend north-east or east-north-east and dip to the north. The deposit is broadly subdivided into the North, Central and Southeast Zones as shown in Figure 3. The new geological model portrays the complex geometry of an enveloping surface that encompasses Nolans Bore mineralisation and its associated alteration using a nominal 0.5% REE cut-off whilst minimising the amount of internal waste. Isolated narrow intervals of mineralisation have been excluded from the geological and resource model.

The geological model builds on all geological, geophysical, and geochemical data systematically acquired by Arafura since 2000 and has greatly benefited from targeted drilling in different directions. The current resource model is based on sectional interpretations, wireframing and three dimensional solid geological models of the mineralised zones. Not all mineralisation has been captured in the resource model. The distribution and geometry of the coarse-grained to pegmatitic granitoids was also systematically interpreted as its distribution assists with geological models of the mineralisation. The geological and resource modelling process was a collaborative and iterative process between Arafura and AMC. Arafura geologists constructed and interpreted all geological, geophysical and geochemical data on sections and plans. Both the mineralisation and the coarse-grained to pegmatitic granitoids were systematically differentiated and interpreted.

There is only a limited number of basement outcrops with most of the area covered by a thin veneer of soil, alluvium, colluvium and calcrete, up to about 4 m thick. Systematic drilling indicates the widespread presence of mineralised veins up to tens of metres in thickness and hundreds of metres in length, extending below 250 m drilled depth across parts of the deposit. The full extent of the deposit is yet to be outlined but deeper drilling has demonstrated mineralisation and alteration at about 490 m drilled depth in the central north zone.

The mineralisation and its associated alteration are geologically distinct from the country rocks at Nolans Bore. Consequently they are relatively easy to differentiate. However, to ensure systematic and thorough sampling processes, a combination of handheld Geiger measurements and geological observations were used to ensure that all potentially mineralised intervals were sampled and assayed. The mineralisation and alteration tends to be various shades of brown, cream, green and white and markedly contrast with the relatively uniform grey, black, white and pink of the biotite-bearing to biotite-rich quartzo feldspathic country rocks. As a general guide, all fluorapatite and/or calcsilicate- bearing rocks are sampled and assayed. Clay and kaolin-altered rocks, especially those that exceed natural background radiation levels, are also potentially mineralised and have been assayed as these can be locally strongly mineralised.

The fluorapatite mineralisation ranges from discrete narrow fine-grained veins to wide intervals of massive coarse-grained breccias. The fluorapatite-rich rocks contain up to about 95% fluorapatite and typically contain abundant mineral inclusions of REE-bearing minerals, such as monazite group minerals, allanite, thorite and numerous other REE phosphates, silicates and carbonates. The fluorapatite itself contains variable amounts of REE but a higher proportion of REE is hosted in the mineral inclusions.

The calcsilicate rocks can contain fluorapatite and other REE-bearing minerals and are typically dominated by pyroxene, amphibole, epidote-allanite, carbonate, quartz, plagioclase, zeolites, garnet, scapolite and titanite. The calcsilicate rocks are strongly associated with the massive fluorapatite mineralisation but tend to be lower grade where mineralised.

Some of the country rocks contain low grade REE mineralisation (e.g. the coarse-grained to pegmatitic granitoid commonly contains up to 0.3% REE and can locally exceed 1% REE in metamorphic monazite) but these rock types and grades markedly contrast with typical Nolans Bore type mineralisation and have not been included in the resource estimate.

Nolans Bore-type mineralisation and its associated alteration is geologically and geochemically distinct from the surrounding host rocks and clearly post-dates the high-grade metamorphism in the host rocks. Large parts of the deposit remain relatively undeformed however some parts are overprinted by the Devonian-Carboniferous Alice Springs Orogeny and Cainozoic weathering. Despite localized overprinting the geochemistry of the mineralisation is very similar throughout hence the mineralisation is defined by an enveloping surface which encompasses all Nolans Bore-type mineralisation >0.5% REE.

Large intrusive bodies of coarse-grained to pegmatitic granitoid form a major component of the host country rocks. These units can be traced as coherent bodies (dykes and sills) and can be differentiated geophysically and geochemically from other country rocks and mineralisation. As such, these rocks form important marker units. The interpreted geological distribution suggests these granitoid bodies are mutually exclusive of mineralisation. However, relationships in drill core clearly indicate the mineralisation postdates the granitoids. The currently favoured geological model suggests that mineralisation is preferentially formed in strain zones within the country rock gneisses and schists adjacent to the more competent, massive coherent coarse-grained to pegmatitic granitoid bodies. This structural relationship was first proposed in 2006 and is still supported.

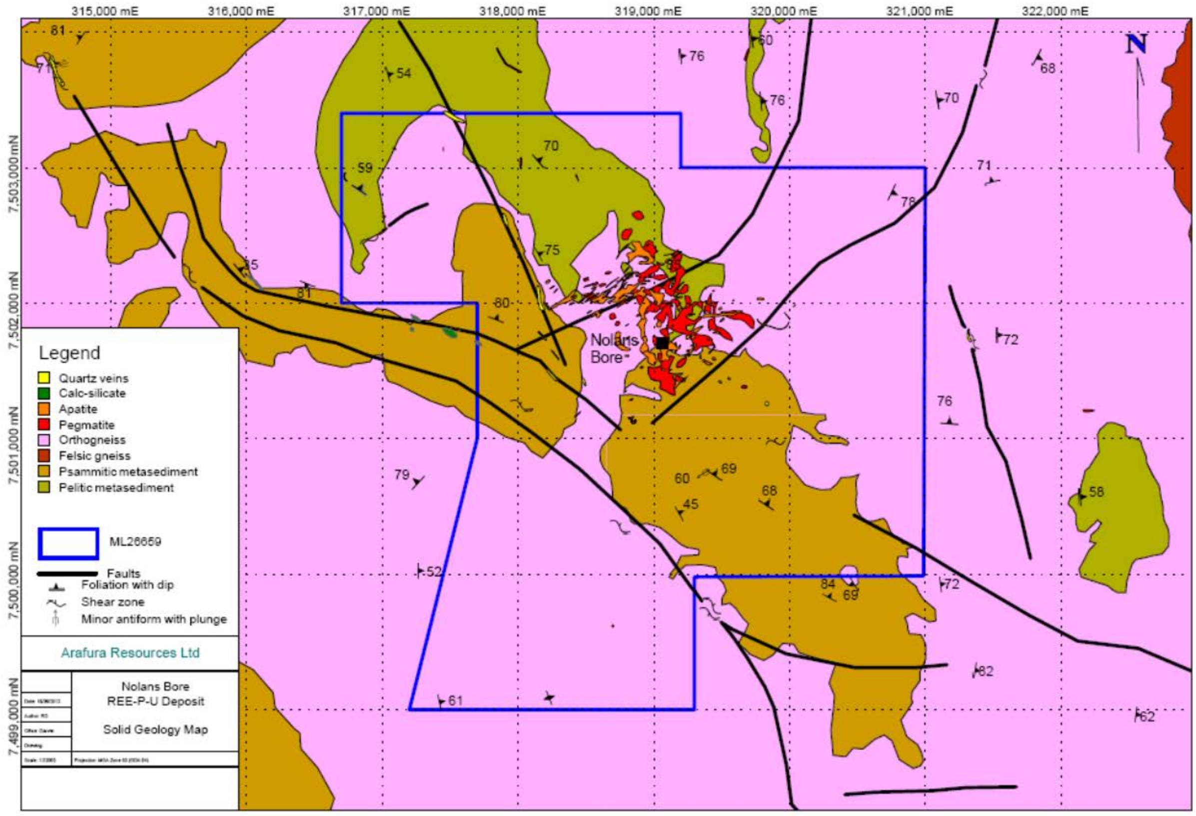

Figure 2: Interpreted geological units of Nolans Bore area.

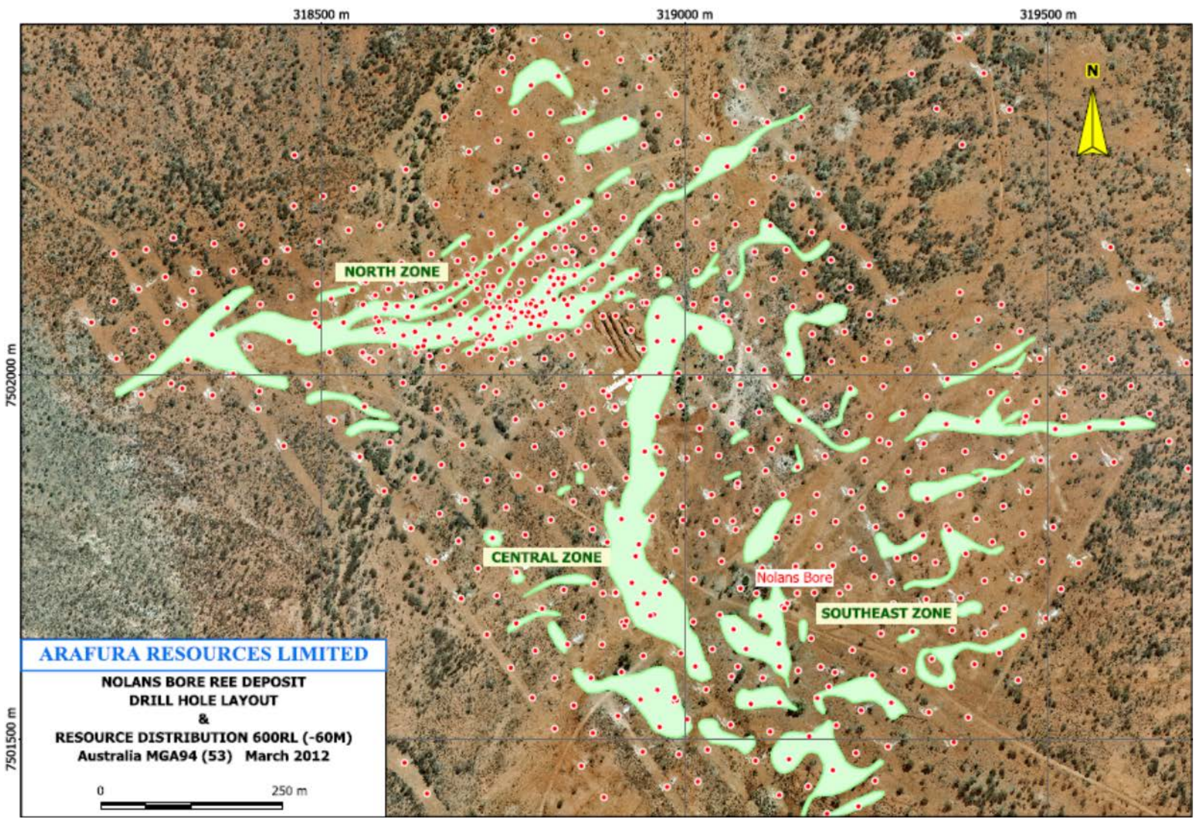

Figure 3: Distribution of the resources and the drillhole layout at Nolans Bore.

Arafura produced the geological interpretation on paper cross sections at 20 m or 40 m spacings, which were later digitised in Surpac v6.2 for import into Datamine mining software. The sections were predominantly orientated with a strike of 145º (north-west to south-east), however a few were oriented east-west.

The interpretation showed that the main mineralised lodes in the north zone are predominantly aligned with the strike direction at approximately 060º and the main mineralised lodes in the central zone are striking approximately north-south. Mineralised lodes in the south-east zone are defined into two broad zones dominated by a south- east to north-west strike of approximately 330º and an approximate east-west strike of approximately 075º to 080º. All dips are steep to sub-vertical and are to the north-north- west in the north and south-east zones and are a combination of east and north-north- east dips in the central area.

LITHOLOGY AND MINERALISATION DOMAINS

AMC was provided with sectional based geological interpretations by Arafura geologists. This was used as a basis for construction of three dimensional wireframes for 104 separate sub-domains, which included 102 mineralisation objects and two background waste units. AMC produced wireframes for the mineralisation and granitoids which were iteratively audited, edited and verified by Arafura and AMC until a consensus was reached such that the geological model best matched Arafura's geological interpretation.

The lithological units identified for Nolans Bore were classified into the following primary domains:

- Mineralisation
- Pegmatite
- Schist
- Background Waste (other undifferentiated country rocks).

In addition the primary domains were divided into

- Soil
- Oxidised/transitional
- Fresh

The individual domains were combined into eleven grouped domains, flagged by a numeric field ZONECODE, with the north zone having four, the central zone having three and the south-east zone grouped as one. The background schist, pegmatite and undifferentiated other background make up the remaining three ZONECODE divisions.

Table 4: ZONECODE Divisions for Nolans Bore 2012 Resource Model

Area	ZONECODE	Oxidation State	Domain Codes
North	100	Fresh	1, 2
North	101	Oxide/Transitional	1, 2
North	110	All	4, 5, 6, 7, 8, 10, 11, 12, 13, 14, 16, 17
North	200	All	200
Central	300	Fresh	30, 31, 70
Central	301	Oxide/Transitional	30, 31, 70
Central	310	All	21, 22, 23, 24, 25, 26, 27, 28, 29, 32, 33, 34, 35, 36, 27, 38, 40, 71, 72, 73, 74, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 95, 96, 97, 98, 109, 112
South-east	400	All	41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 101, 103, 104, 105, 106, 107, 108, 110, 111
Pegmatite	900	All	900
Schist	910	All	910
Background Waste	9999	All	9999

DATA

The data used to generate the geological interpretation and grade estimates included the following information:

Drillhole data was exported from Arafura's Geobank database on 20 January 2012 and supplied to AMC in the form of a series of Excel spreadsheets using pre-defined database views, and a Microsoft Access database.

- Nolans_1_vw_surpac_assays.xlsx
- Nolans_2_vw_surpac_collar.xlsx
- Nolans_3_vw_Downhole_surveys.xlsx
- Nolans_4_vw_geology.xlsx
- Nolans_5_vw_surpac_radiometrics.xlsx
- Nolans_6_vw_surpac_sgs.xlsx
- Nolans_7_vw_DownHole_Geophysics_sgs_rock.xlsx
- Summary_Of_DHSurvey_Changes_Nolans_Bore_January_20_2012.xlsx
- Nolans_Bore_Database_2011_Arafura_Resources.mdb

The database included collar, geology, downhole logging, survey, bulk density and assay information derived from nine x 1-2.5 metre deep costeans, 588 reverse circulation drillholes, 92 diamond core holes from surface and 140 diamond core tails in 136 holes.

A total of 87,092 metres of drilling plus 1,112 metres of costeans has been included in the 2012 Resource Estimate for Nolans Bore. Table 5 below outlines the total intervals in metres which have been included in the 2012 Resource Estimate. The proportion of drill core is sufficiently high (31%) to provide a good geological understanding of the resource.

Table 5: Breakdown of the intervals used in Resource Estimate.

Year	Costean		RC		Core		
	number	metres	number	metres	number from surface	number of tails	cored metres
2000	6	890					
2001			12	856			
2004			20	1,525	5		518
2005			58	7,532	1	11	1,042
2006			41	3,462	17		1,322
2007	3	222	103	10,018	6	3	704
2008			85	7,815			
2009					7		793
2010			9	992			
2011			208	27,761	56	126	22,681
Total	9	1,112	536	59,961	92	140	27,060

A total of 52 RC holes for 3,032 metres included above lie outside of the main resource at Nolans Bore and, although mineralised in part, have been excluded from the current resource assessment as they represent distal, weak or isolated mineralisation. In addition, a further 421 shallow RAB holes (4,100 metres) and 9 shallow geotechnical core holes (113 metres), which have been drilled as part of infrastructure planning, have also been excluded.

Geological logging data from 48 wide diameter (780 mm) drillholes totalling 1656 metres were used to support geological interpretations. These drillholes were drilled to gain bulk material for metallurgical test work and were not representatively assayed so they have not been included in the grade estimate.

A set of sectional geological interpretations that define the enveloping surface for all identified Nolans Bore-type REE mineralisation were created using a 0.5% REE lower grade cut-off. The interpretations also differentiate the major pegmatite bodies and schist zones from the other country rocks. The pegmatite bodies were used to aid interpretation of the mineralisation however both the pegmatite bodies and the schist zones were not fully interpreted. A number of faults and mylonite zones were recognised during the interpretation exercise but the full extents of these were not outlined. The hand-drawn geological interpretations were constructed in Darwin by Arafura staff in December 2011 with the coinciding sectional strings digitised in tandem by AMC and Arafura using Surpac v6.2.

The drillhole database was checked by AMC for errors and missing values and used on an "as is" basis with minor omissions as outlined in AMC 2012. For example, due to some rig alignment and downhole survey mis-matches, the original set up directional data for all drill collars was omitted in favour of the 10 metre downhole survey data. The minor errors noted in Hussey 2012 are insignificant in the overall scheme of things and are not considered material to this resource estimate.

The data was imported into Datamine and used by AMC to construct the wireframes and to compile and establish an ordinary kriged block modelled grade estimate. The wireframes and solids were constructed by AMC in January-February 2012 and jointly reviewed on a number of occasions.

QAQC

Arafura ensured that the Competent Person for the Exploration Results or an experienced Senior Geologist was present on site for all exploration and resource definition programs. This ensured that all records, sampling and QAQC protocols were commensurate with industry standard practices. Field duplicates, blanks and standards were routinely inserted into all assay sample batches. Internal and Certified standards were systematically used to monitor the quality of the assay results. The assay results were carefully monitored by the Competent Person. Unusual results were confirmed by repeat assay at the primary laboratory and in many cases were also confirmed by analysis at a referee laboratory. The results from the primary laboratory are supported by systematic 1 in 20 check analysis at a second laboratory. Although minor sampling and analytical errors are evident, the assay results for the elements of interest are typically well under control and have a level of analytical precision and accuracy which is suitable for resource estimation purposes.

To ensure the reliability of the data AMC imported the supplied database for use in Datamine mining software and performed brief validation during the import process. The data was checked for missing, duplicated or overlapping intervals, duplicate samples/assays, unusually high or low values, zero or null values, FROM values greater than TO values, collar records with missing assay, survey or geology records, missing survey data, duplicate drillhole identifiers (BHID), missing AT=0 in survey file and unusually high or low density values. The survey database provided to AMC had no record for AT=0 (Start of hole), so AMC used the collar dip and azimuth data as the start of hole record in the survey file.

AMC discovered minor validation errors, primarily regarding geology intervals, which were relayed to Arafura via email. These were corrected or indicated as correct by Arafura and AMC used the data received in the final database used for resource modelling.

DATA ANALYSIS

The imported raw drillhole data was subset by the interpreted wireframes for mineralisation and waste and had unique numeric domain codes attached. The drillholes within each wireframe object were assigned a code called DOMAIN. The drillhole samples were also assigned a numeric code (OXSTATE) to define their oxidation state. Two additional numeric codes were added at this stage, to define whether the drillhole samples were above or below topography (code TOPO) and whether the material that the drillhole had sampled was still in situ or mined out (code INSITU). All drillhole samples at Nolans Bore have TOPO codes equal to zero, as they are all below topography and all have an INSITU code of one.

The output of the code flagging process (flagsam.dm) was checked against the wireframe shapes to ensure that the correct selections were made and a listing of the intercepts was provided to Arafura for confirmation. The flagged sample file has 29,066 records including background material and 12,606 records for mineralisation only.

It is clear that a 2 m composited length is the most appropriate for data analysis. The drillhole data was composited into 2 metre sample intervals to minimise any bias due to sample length. The compositing was run within attribute fields to ensure that no composite intervals crossed lithological boundaries. The composite file (compsam.dm) has 25,048 records in total or 9,973 records if counted for mineralisation only. Phosphorus, uranium and all the REEs to be included in the estimate have an equal number of records, except that several of the REEs have values equal to zero, Eu has 199 samples recorded as 'NULL', with Lu having six and Tm having two. These values were reset to zero prior to flagging. In AMC's opinion, this is of no risk to the estimate.

No metal was lost in the compositing process for REE%, P% or U%.

Variograms were generated to assess the grade continuity of the various elements and as inputs to the kriging algorithm used to interpolate grades

BULK DENSITY

Arafura provided database records for density in two forms. These were drill core sample measured bulk densities and downhole geophysical probe determinations. A total of 7,702 drill core sample density determinations were collected using the weight-in-air versus weight-in-water method (Archimedes' Principle) and were conducted on drill core samples from all core drilling programmes completed between 2004 and 2011. The geophysical determinations are one-metre averaged values and were all measured in 2011 but include measurements on holes completed in earlier drilling programmes, particularly where previously drilled RC holes were used as pre-collars for core tails in 2011.

The overall distribution of density values and probabilities of both datasets are very closely correlated, and except for the lower apparently erroneous density values in the probe dataset, the trend for each set is extremely close. The erroneous probe density values are considered unlikely as it is unlikely that there are real measured densities of less than 1 t/m^3. 191 of the 9,000 probe records were considered erroneous and removed. Both sets of data were combined to provide the final density database for the model.

The combined density data was cut with the mineralised wireframes for each DOMAIN and with the OXSTATE, and means calculated. Density statistics for each mineralised DOMAIN are listed below. OXSTATE 0 is fresh and 0.5 is oxidised.

Table 6: Density statistics for each DOMAIN and OXSTATE.

OXSTATE	DOMAIN	NSAMPLES	MINIMUM	MAXIMUM	MEAN
0	1	630	1.16	3.58	2.74
0	2	8	2.63	3.12	2.82
0	5	17	2.32	3.21	2.81
0	6	48	2.09	3.21	2.80
0	10	2	2.62	3.16	2.89
0	11	4	2.48	2.98	2.71
0	12	56	2.47	3.09	2.71
0	13	6	2.59	3.11	2.83
0	17	46	2.19	3.11	2.63
0	21	127	1.93	3.27	2.78
0	22	241	2.12	3.32	2.81
0	23	29	2.40	3.23	2.89
0	24	22	2.42	3.15	2.78
0	26	5	2.90	3.15	3.04
0	30	1109	1.59	3.73	2.99
0	31	135	1.96	3.23	2.86
0	32	1	3.26	3.26	3.26
0	33	41	2.46	3.23	2.85
0	36	39	2.15	3.19	2.80
0	37	34	2.14	3.11	2.79
0	38	113	2.17	3.23	2.71
0	40	275	1.49	3.41	2.91
0	42	85	1.76	3.21	2.77
0	43	373	2.00	3.39	2.85
0	53	1	3.10	3.10	3.10
0	56	1	3.09	3.09	3.09
0	58	7	1.98	2.86	2.46
0	59	4	3.02	3.18	3.12
0	60	5	2.45	3.00	2.85
0	61	3	3.14	3.18	3.16
0	64	7	2.11	3.07	2.46
0	68	5	3.12	3.21	3.17
0	69	14	2.51	3.09	2.81

OXSTATE	DOMAIN	NSAMPLES	MINIMUM	MAXIMUM	MEAN
0	70	47	2.51	3.37	2.90
0	72	18	1.75	3.80	3.06
0	73	2	2.75	3.16	2.96
0	74	8	2.67	3.21	3.00
0	88	3	3.12	3.20	3.15
0	89	3	2.75	3.12	2.91
0	98	3	2.55	2.72	2.62
0	101	4	3.06	3.22	3.11
0	109	9	2.62	3.14	2.96
0	112	4	2.83	3.23	3.07
0	200	4	1.53	2.86	2.06
0.5	1	484	1.15	3.27	2.34
0.5	5	1	2.80	2.80	2.80
0.5	6	2	3.07	3.08	3.08
0.5	22	31	1.92	3.12	2.74
0.5	23	156	1.67	3.15	2.72
0.5	30	306	1.39	3.20	2.42
0.5	31	25	1.93	3.34	2.85
0.5	42	3	2.87	3.00	2.93
0.5	43	17	1.18	3.05	2.31
0.5	48	4	1.65	2.35	2.05
0.5	49	3	2.30	2.89	2.54
0.5	50	14	2.00	2.86	2.55
0.5	62	4	1.46	2.34	2.03
0.5	63	14	1.82	2.43	2.13
0.5	70	5	1.87	3.08	2.76
0.5	200	52	1.26	2.99	1.87

Mean densities were assigned to the model based on a combination of DOMAIN and OXSTATE. Where a DOMAIN did not have any intersecting data, the mean density for the relevant OXSTATE division (i.e. 2.85 t/m^3 for fresh, 2.48 for transitional and 1.85 for oxidized) was assigned.

VOLUME MODELLING

A volume model was created for each mineralised structure and each background waste unit, using the same wireframes used for sample flagging. Each mineralised wireframe was filled with parent cells that were allowed to split forming sub-cells. The amount of splitting in the northing (Y), easting (X) and elevation (Z) directions was optimised to maintain the correct interpreted wireframe volume, without producing excessive sub- cells in the volume model.

As the drillhole spacing varies, with the central north zone being drilled at approximately 20 m centres (20 m apart in east and west directions) and the central and south-east zones at best approximately 40 m centres, two separate prototypes were used. The original drilling grid is orientated at 145º and the block model prototypes are aligned to the national grid. The north prototype had a parent cell size of 12.5 m in easting and northing dimensions (X and Y respectively) and 5 m in elevation (Z). The south prototype had a larger parent cell size of 25 m in X and Y and 5 m in Z. This corresponds with approximately half the local drillhole spacing when viewed in the directions of the national grid.

Table 7: Nolans Bore 2012 Volume Model Prototypes.

Prototype	Axis	Origin (Local Grid Coordinates)	Parent Cell Dimensions (m)	Number of Parent Cells	Maximum Splits	Smallest Sub-Cell Size (m)
North	X Y Z	318060 mE 7501000 mN 320 mRL	12.5 12.5 5	142 134 76	8 8 8	1.563 1.563 0.625
South	X Y Z	318060 mE 7501000 mN 320 mRL	25 25 5	71 67 76	8 8 8	3.125 3.125 0.625

The model created for the north prototype only included mineralisation domains, whilst the south prototype included mineralisation domains for the south-east and central zones, as well as the waste domains for the complete deposit. The north prototype volume model was converted to the south prototype and added to the south block model after the grade estimation to produce a single grade model.

RESOURCE ESTIMATE

AMC has estimated La, Ce, Pr, Nd, Sm, Eu, Gd, Tb, Dy, Ho, Er, Tm, Yb, Lu, Y, REE, P, U and Th block grades for the mineralised domains using ordinary kriging.

The interpreted wireframes were grouped into areas defined by position, geological interpretation, and oxidation state. Eight numerically coded ZONECODE divisions were created. The drillholes and volume model were flagged with the ZONECODE codes. Each ZONECODE division had different estimation, search, and variogram parameters to allow for independent estimation. Estimation of grade was completed in two stages, with the primary elements of interest, REE%, P%, and U% estimated first. The individual REEs (Ce, Dy, Er, Eu, Gd, Ho, La, Lu, Nd, Pr, Sm, Tb, Tm, and Yb) were estimated in the second stage, along with Y, although Y was not included as part of the total REO grade. For reporting purposes, the total REE% grade was multiplied by a factor of 1.20 to get a total REO% grade.

Grade is estimated into the eleven ZONECODEs as defined by the geological interpretation and drillhole data. Grades are estimated for a suite of REEs as a total of the individual assay values (REE%), uranium and phosphorus. The suite of elements includes Ce, Dy, Er, Eu, Gd, Ho, La, Lu, Nd, Pr, Sm, Tb, Tm and Yb. The estimated grades also included Y, but this was not added to the total REE% values.

Initially, grade was estimated for the three primary variables of interest, REE%, U% and P%. Three separate grade estimation runs were performed, with the northern area ZONECODEs (100, 101, 110 and 200) being estimated by ordinary kriging (OK) first, followed by the remaining non-waste domains. The pegmatite, schist and background domains were estimated using inverse distance estimation, to the power of two (ID^2). The southern mineralisation and waste models were added together after estimation, with the northern area model being translated to the southern area model prototype before adding. All of these models had hard boundaries so that no grade from the mineralisation was smeared into the background waste domains. The separate estimation and later addition ensured that all sub-models were combined on the same prototype for a common final parent cell size, but allowed the northern area to use the higher density drilling for better local estimation into originally smaller parent cells.

All grades were estimated into parent cells, with all sub-cells receiving the same grade as their parent. Cell discretisation was set to 5, 5, and 3 in the cell X, Y and Z directions respectively. Parameter files were created for search, variogram and estimation parameters and these were read into a Datamine macro that allowed multiple estimation runs to test the parameters and the final output model.

Initial search ellipses were set to the directions and ranges of the respective variograms. These were tested by iterative means and the final ellipses were chosen to be approximately half to two-thirds the longest variogram ranges in each direction, with the longest axis (for the anisotropic searches) being along or sub-parallel to the strike of the major direction of continuity.

Each grade estimate is performed in a series of three passes, with cells not estimated in the first pass using an expanded search ellipse for the second pass and likewise for the third pass. The expansion factors are times 2.5 for the second pass and times 4 for the third pass. The maximum number of composite samples allowed for the first pass estimate ranges from 25 to 35, with a minimum of ten. The third pass uses a maximum of 30 samples and a minimum of two. Nearly all cells in the central part of the northern area were estimated on the first pass and used the maximum allowed number of informing samples for REE%, U% and P%.

During the estimation, kriging weights were allowed to be negative and a maximum of six samples were allowed per drillhole.

On completion and initial validation of the initial estimation runs for the three primary variables of interest, a second set of variogram, search and estimation parameters were created to allow for estimation of the individually assayed REEs.

The variogram and search parameters for each estimated ZONECODE domain used the REE% variables from the initial estimate. The elements estimated in this second round of estimates were Ce, Dy, Er, Eu, Gd, Ho, La, Lu, Nd, Pr, Sm, Tb, Tm, Yb and Y.

MODEL VALIDATION

The final model was validated both visually and statistically. The model was compared with drillholes and wireframes on sections to check for errors. Block model volumes were also crosschecked against wireframe volumes.

Plots were produced comparing the estimated model grades (REO%) with the composite grades (converted to REO% values) in a series of slices through the model and data. The profile plots of 50 m slices in easting and 25 m in RL show the general trends in the data and model. The model profiles are generally slightly smoother than the composite profiles (i.e. show less variance) but are usually still constrained between the extremes of the composite data. This is expected, as the estimation process normally selects multiple data in overlapping search ellipses and smooths the more variable drillhole data by placing one discrete value per parent cell volume.

Figures 4 and 5 show the sliced profile plots for REO% by easting and by RL for the combined DOMAINS 1, 2 and 200 (ZONECODES 100, 101 and 200).

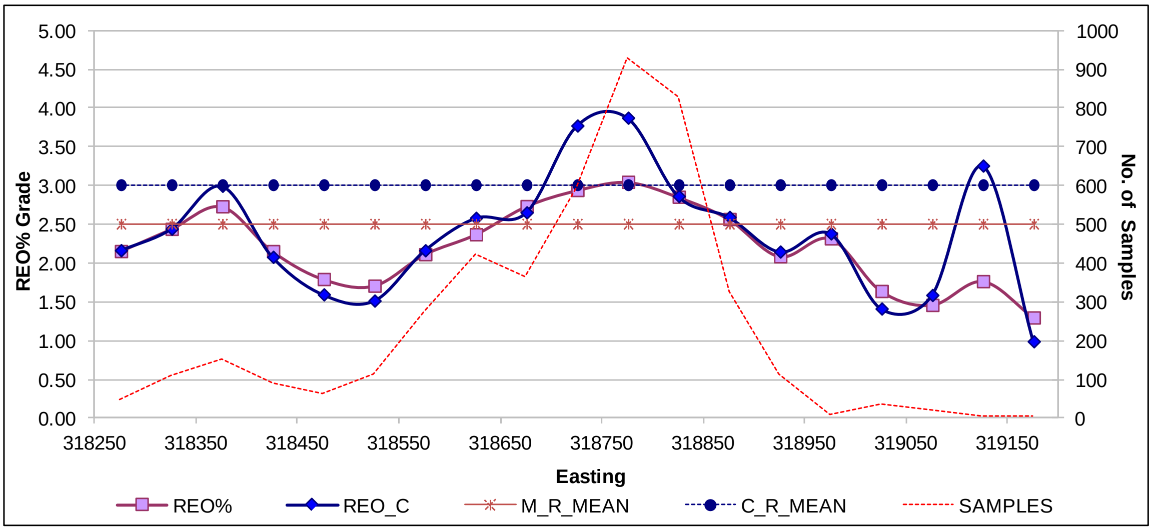

Figure 4: REO% Grade by Easting, DOMAIN Codes 1, 2 and 200.

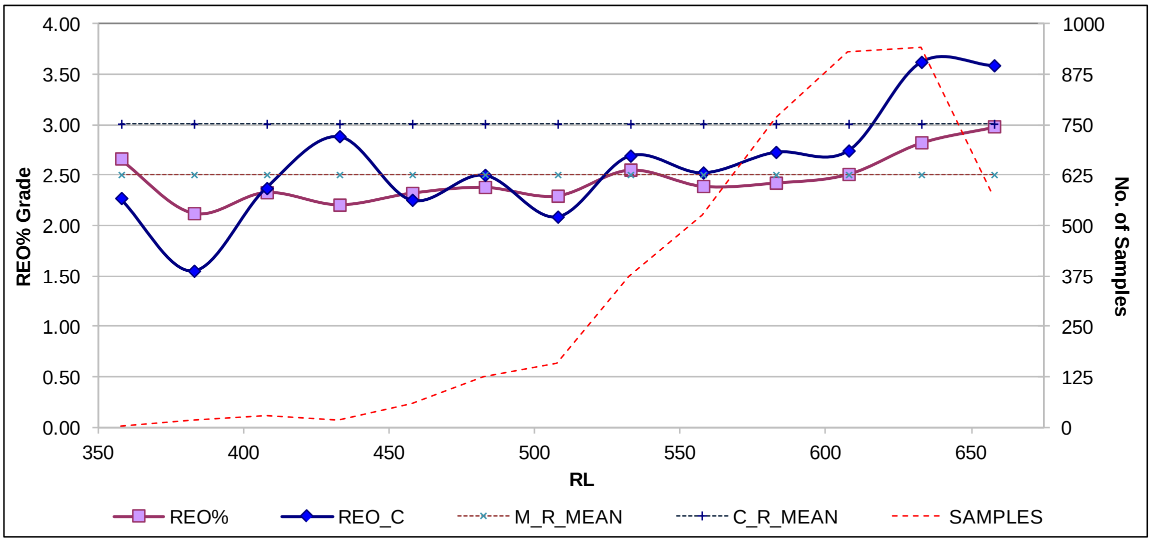

Figure 5: REO% Grade by RL, DOMAIN Codes 1, 2 and 200.

MINERAL RESOURCE CLASSIFICATION AND REPORTING

The Nolans Bore Mineral Resource estimate was originally classified and reported in accordance with the 2004 Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (the 2004 JORC Code). This report updates the classification and reporting of the Nolans Bore Mineral Resource based on the guidelines of the 2012 JORC Code.

The classification was developed based on an assessment of the following criteria:

- Nature and quality of sampling methods;
- Drilling density;
- Confidence in the understanding of the underlying geological and grade continuity;
- Analysis of the QAQC data;
- A review of the geological database and the sampling and logging protocols;
- Confidence in the estimate of the mineralised volume;
- The results of the model validation;
- Metallurgical test work demonstrating beneficiation of the mineralisation;
- The classified Mineral Resource has been reported as either Measured, Indicated or Inferred based on the following criteria and reported in Table 8.

Classification for Nolans Bore is based on the continuity of geology, mineralisation and grade, using drill hole and density data spacing and quality, variography and estimation statistics (number of samples used and estimation pass).

The modelled deposit at Nolans Bore is systematically drilled on a nominal 40 m x 40 m drill hole spacing with localised drilling to a nominal 20 m x 20 m spacing in the central north zone. In general, the estimates have been classified as Measured Resource in the central north zone where closest spaced drilling occurs and the confidence in the estimate is high. The outer peripheries and deepest parts of the modelled deposit are generally classified as Inferred Resource where there is lower confidence in the estimate. This lower confidence corresponds to systematic 40 m x 40 m drill hole spacing at surface and at depth in some parts are 40 m x 80 m. The addition of east-west drilling in the central zone and targeted geotechnical drill holes has provided extra information in different drilling directions which has allowed some parts to be classified as Indicated Resources corresponding to moderate levels of confidence in the estimate. Some outlying mineralisation is poorly supported by sampling and has not been classified as Mineral Resource.

The Nolans Bore Mineral Resource estimate, as at 9 December 2014, reported above a 1% REO cut-off grade and compliant with the 2012 JORC Code is shown below.

Table 8: Nolans Bore Rare Earth Deposit Mineral Resource Estimate at 9 December 2014 Reported at 1% REO Cut-Off.

Category	Tonnes (Mt)	REO (%)[1]	P_2O_5 (%)	U_3O_8 (%)[2]
Measured Resources	4.3	3.3	13	0.03
Indicated Resources	21	2.6	12	0.02
Inferred Resources	22	2.4	10	0.02
Total Resources[3]	**47**	**2.6**	**11**	**0.02**

[1] REO does not include yttrium (Y)

[2] Calculated from U_3O_8 using the conversion 1 lb/t = 0.0454% U_3O_8

[3] Rounding might cause some computational discrepancies

The interpreted wireframes were grouped into areas defined by position, geological interpretation, and oxidation state. Eight numerically coded ZONECODE divisions were created. The drillholes and volume model were flagged with the ZONECODE codes. Each ZONECODE division had different estimation, search, and variogram parameters to allow for independent estimation. Estimation of grade was completed in two stages, with the primary elements of interest, REE%, P%, and U% estimated first. The individual REEs (Ce, Dy, Er, Eu, Gd, Ho, La, Lu, Nd, Pr, Sm, Tb, Tm, and Yb) were estimated in the second stage, along with Y, although Y was not included as part of the total REO grade. For reporting, the total REE% grade was multiplied by a factor of 1.20 to get a total REO% grade.

The Mineral Resource estimate reported at a range of cut-off grades is listed in Table 9 below.

Table 9: Nolans Bore Rare Earth Deposit Mineral Resource Estimate reported at a range of REO Cut-Off Grades.

Cut-off (REO%)[1]	Tonnes (Mt)	REO (%)[2]	P_2O_5 (%)	U_3O_8 (%)	U_3O_8 (lb/t)[3]
0.5	48	2.6	11	0.02	0.41
1.0	47	2.6	11	0.02	0.41
1.5	43	2.7	12	0.02	0.43

1 The Mineral Resource Estimate has been classified on the basis of a 1% REO cut-off and the classification might not be appropriate at other grade cut-offs.

2 REO does not include yttrium (Y).

3 Calculated from U_3O_8 using the conversion 1 lb/t = 0.0454% U_3O_8

The resource classification is based upon a 1% REO cut-off and might not be applicable at other cut-off grades.

The estimated REE% grades were converted to reported REO% grades by multiplying by a factor of 1.20. Reported U_3O_8 grades are converted from estimated U% grades by multiplying by a factor of 1.1792 and reported P_2O_5 grades converted from estimated P% grade by multiplying by a factor of 2.2914. Reported U_3O_8 lb/t grades are converted from U_3O_8 % grades by dividing by a factor of 0.0454.

Figure 6 below shows a grade tonnage curve for REO% for the total Nolans Bore Mineral Resource, including all classified material.

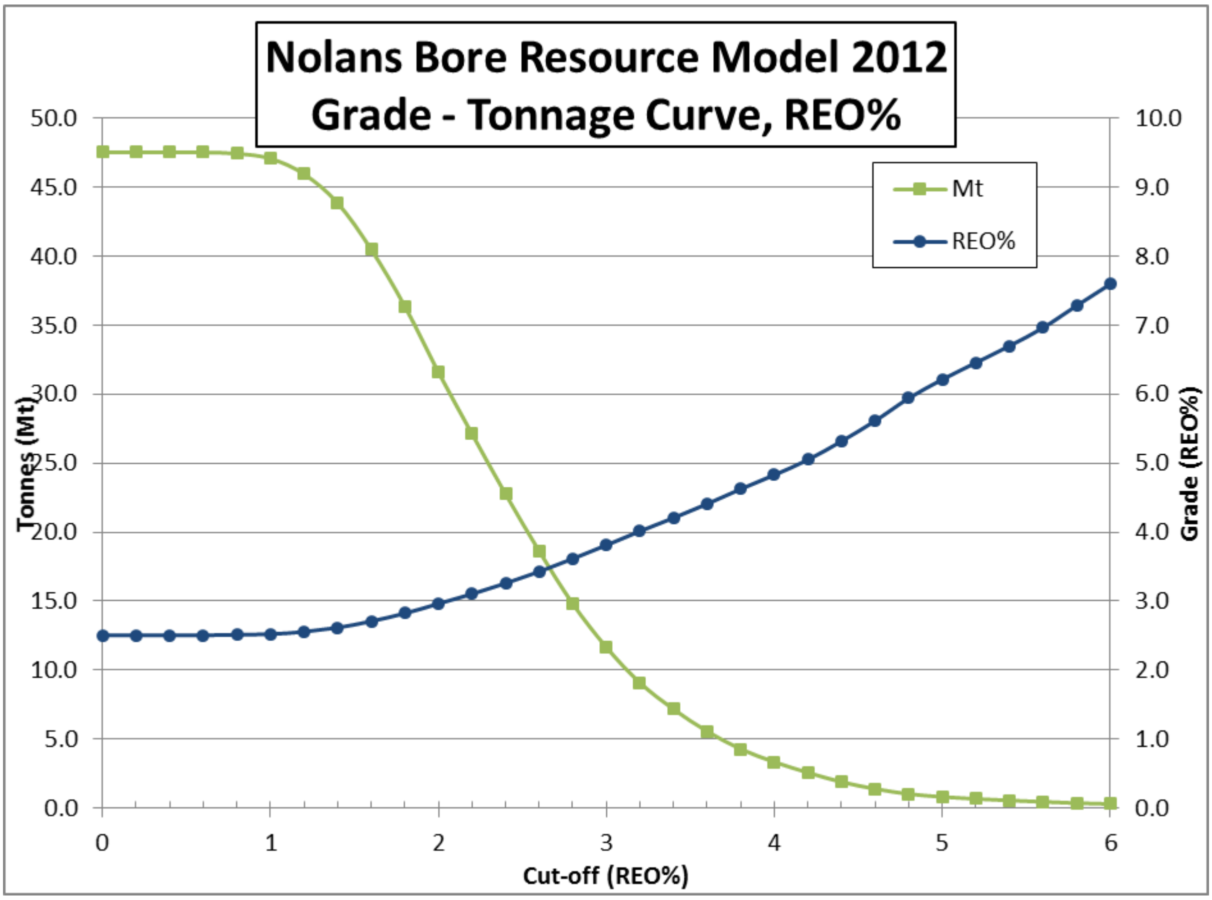

Figure 6: Grade-tonnage curve for the total Nolans Bore Mineral Resource including all classified material.

Average grades for each individual REE are presented in the Table 10 below reported grade at a 1% REO cut-off. The results are presented for the total Mineral Resource as well as broken down by individual resource classification.

Table 10: Individual REE grades reported by Resource Classification at a 1% REO Cut-Off

Individual REE Grades (all in ppm)															
Resource Classification	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu	Y
Measured	5,562	13,433	1,642	5,915	676	113	282	20.3	98	13.9	24.8	3.3	17.3	2.1	393
Indicated	4,345	10,624	1,322	4,750	530	89	228	18.4	73	10.1	21.1	2.3	12.5	1.5	277
Inferred	3,945	9,555	1,179	4,238	475	81	210	17.5	68	9.4	20.6	2.2	12.0	1.5	258
All	4,274	10,393	1,286	4,623	518	88	225	18.1	73	10.1	21.2	2.3	12.7	1.5	279

While exercising all reasonable due diligence in checking and confirming the validity, AMC has largely relied on the data as supplied by Arafura to estimate and classify the Nolans Bore Mineral Resource. As such AMC accepts responsibility for the resource modelling and classification while Arafura accepts responsibility for the underlying geological interpretation and the accuracy and quality of the underlying Exploration Results. Arafura accepts that the geological model is complex and that AMC has in place a simplified geological model to form coherent 3-D solids.

JORC TABLE 1 ASSESSMENT CRITERIA

Section 1: Sampling Techniques and Data

Criteria	Commentary
Sampling techniques	Senior Geologists, including Competent Person (Kelvin Hussey) and former Competent Person (John Goulevitch), have ensured sampling is to industry standard across all exploration and resource definition campaigns at Nolans Bore. Quality of sampling and all relevant sampling details were continuously monitored and recorded by the responsible Geologist during all drilling operations. Results of the sampling programs detailed below are included in the geological model and Mineral Resource estimate as outlined. Results of samples collected from surface mapping, shallow pits and the wide diameter core/auger holes were not included in the Mineral Resource estimate but were considered in the development of the geological model. Drilling has involved both Reverse Circulation (RC) and diamond core drilling. Most drill holes were systematically drilled towards the southeast (145 degrees true) at an inclination of -60 degrees. Drilling has been completed across most of the area at nominal 40m x 40m grid pattern with infill to 20m x 20m in the central parts of the North Zone (CNZ). Wider spaced exploration drilling occurs on the periphery of the main resource. 10 vertical RC holes have been drilled at Nolans Bore and are used abstract or monitor groundwater. 25 inclined diamond core holes have been drilled to the east or west on 100 metre-spaced east-west sections to resolve complexities in the geological model in the Central Zone of the deposit. 19 inclined diamond core holes have been drilled in various other directions. The quantum of drill core at Nolans Bore is sufficiently high and widespread to ensure adequate sampling and a geological understanding of the deposit. RC drilling was conducted in 2001, 2004, 2005, 2007-08, 2010 and 2011. All RC drilling campaigns have employed a 140mm diameter face sampling hammer with sufficient air to ensure adequate representative sample was collected. A total of 62,993 metres in 588 RC drill holes have been completed at Nolans Bore and its immediate surrounds up to the end of 2011. A total of 532 of these RC holes (59,961 metres) have been drilled in the main area considered in the current resource assessment. RC drill chips were collected at one-metre sample intervals. Assay samples were automatically split via a 12.5/87.5 riffle splitter at the drill rig and averaged about 4 kg. The entire 2007-08 RC program and all other wet samples were manually split to size using Arafura's 50/50 riffle splitter after the residues were allowed to air dry. One 2011 drill rig was adequately setup to enable automated riffle splitting of wet samples. An assessment of wet and dry splitting at this rig and a comparison with the other rigs showed no material biases with acceptable sample sizes. The rig cyclone and splitter were thoroughly washed and air dried after each rod in the clay-rich parts of the deposit to limit cross-contamination of samples and smearing of grade. Automatically split assay sample sizes were typically considered acceptable. However in some instances, the residue was manually re-split again to achieve an average 4kg assay sample. Diamond core drilling was conducted in 2004, 2005, 2006-07, 2009 and 2011. A total of 27,060 metres have been drilled at Nolans Bore with 92 holes cored from surface and 136 RC holes extended by cored tails; all of which are HQ3, NQ2 or NQ3 in size. Four RC holes have two core tails making 140 cored tails in total. Most diamond core drilling has used a triple-tube configuration to gain the maximum possible recovery. Orientated diamond core drilling was initially attempted in 2006 but was abandoned due to technical difficulties in the kaolin- and clay-altered zones in the central north zone. Systematic orientated diamond core drilling occurred in 2009 and 2011.

Perth Office: Level 3/263 Adelaide Tce, Perth WA 6000 ■ PO Box 5773, St Georges Tce, Perth WA 6831 ■ T: +618 6210 7666 ■ F: +618 9221 7966
Darwin Office: 18 Menmuir St, Winnellie NT 0820 ■ PO Box 37220, Winnellie NT 0821 ■ T: +618 8947 5588 ■ F: +618 8947 5599
■ E: arafura@arultd.com■ W: www.arultd.com

Criteria	Commentary
Sampling techniques	Diamond core assay samples were collected by cutting the core in half using a diamond saw and sampled to lithological boundaries and core loss breaks. Assay samples are continuous intervals and do not include core loss intervals. Core loss is recorded as no recovery and a zero grade is assumed for this interval. Geotechnical and metallurgical drill core has been sampled at metre marks where possible but has also been sampled to lithological boundaries. Holes cored for metallurgical purposes were also quartered for assay. Costeaning was conducted in 2000 and 2007. Nine 1-2.5 metre deep costeans totalling 1,222 metres have been excavated across the mineralisation. Costeans have been mapped and then representatively channel-sampled by hand at a constant depth below the ground surface along one side of the costean. Samples were selected for assay by the Competent Person or Senior Geologist following Arafura's standard sampling procedures and protocols. Assayed intervals typically include samples with logged mineralisation, alteration, or samples above background levels of radioactivity plus adjacent material up to at least two metres away from possible alteration/mineralisation. Additional follow up sampling is conducted when appropriate.
Drilling techniques	Reverse Circulation (RC) drilling employed a 140mm diameter face sampling hammer with drill hole depths ranging from 18-210 metres. The drill rig's air capacity was typically boosted via an auxiliary compressor to ensure adequate sample recovery and the driest possible sample. Water injection was used to minimize dust emissions at the rig. Diamond core drilling mostly employed HQ3 and NQ3 to ensure maximum recovery via triple-tube configurations with a maximum drilling depth of 492 metres. Drill holes cored from surface are HQ3 in size while cored tails were typically NQ2 in size. 11 twinned holes have been completed to investigate differences between the two drilling techniques with proximal comparisons of RC vs core, and core vs core. Despite some short range variability, twinned RC vs core and core vs core generally yield similar assay results for composited intervals with no material differences observed between the two drilling techniques in most areas. A direct comparison of core vs core shows that the recoveries in highly variable ground conditions can be problematic and to a large extent depend on driller's competence and supervision to Arafura. Hence despite lower RC sample recovery in clay-altered zones, the core vs core twins showed that coinciding core loss in mineralisation is a more significant issue than lower RC sample recovery. Drill collars were sited and pegged by hand-held GPS in 2001-2004 with subsequent drill collar locations surveyed and pegged by professional surveyor prior to drilling. All completed drill collars were accurately re-surveyed. Hole orientations were surveyed by the driller typically at 30 metre intervals using Eastman or single shot digital cameras. Where possible all holes were open hole surveyed by Borehole Wireline Pty Ltd (Borehole Wireline) and survey data recorded at 5 cm intervals as Log ASCII Standard (LAS) data
Drill sample recovery	To ensure representivity and maximum sample recovery, the responsible Geologist was present during all drilling operations to monitor the

Perth Office: Level 3/263 Adelaide Tce, Perth WA 6000 ■ PO Box 5773, St Georges Tce, Perth WA 6831 ■ T: +618 6210 7666 ■ F: +618 9221 7966
Darwin Office: 18 Menmuir St, Winnellie NT 0820 ■ PO Box 37220, Winnellie NT 0821 ■ T: +618 8947 5588 ■ F: +618 8947 5599
■ E: arafura@arultd.com ■ W: www.arultd.com

Criteria	Commentary
Drill sample recovery	drilling and sampling process. RC sample recovery and moisture content was routinely recorded by the responsible Geologist and is entered into the database. RC sample recovery is based on a subjective assessment of the volume recovered and has been recorded as high (H), medium (M) or low (L), and since 2007 has also been determined via the weight of the bulk sample returned, averaging about 75-80% nominal mass recovery. RC recoveries are generally considered acceptable although lower volumes are recovered at depths greater than about 100-150 metres in areas of large groundwater volumes. Lower recoveries are also typically observed in the kaolin- and or clay-altered zones. Assessments indicate that RC sample recovery is typically adequate for the first 150m although the deepest RC hole (210m) returned adequate sample throughout. RC holes deeper than 150 metres make up only a small fraction and most RC holes are terminated in favour of cored tails and better recoveries. RC holes were typically terminated when recovery was too low. Drill core recovery is typically 95-100% although moderate to significant core loss is recorded in scattered intervals in some holes. The host rocks and the more massive mineralised zones tend to show good recoveries in most cases. Higher core losses typically correspond to clay-rich zones with rare intervals showing 10-20% recovery per run although most runs achieve 50-100% core recovery in poor ground. Some low recovery intervals are coincident with strongly mineralised zones. Core loss intervals are recorded as no recovery (NREC) and have a zero grade in the database. Based on an analysis of twinned core holes, grade may be significantly understated due to the assignment of zero grade to core loss intervals. The largest amount of diamond core drilling occurred in 2011 (84% of total drill core metres) which achieved a total recovery of 98.7%. However 14 cored holes only achieved 80-95% recovery. The results achieved in 2011 are very similar to previous core drilling campaigns although the 2006-07 core drilling campaign provided the best recovery and record of strongly mineralised intervals in poor ground. Arafura's constant supervision of cored holes informed the drillers of expected ground conditions and aided higher recoveries in the clay rich zones.
Logging	Qualitative geological logging has occurred for all holes in their entirety using in-house pre-designed paper log sheets. Completed log sheets have been scanned and the data manually entered into Arafura's GeoBank database. Experienced senior geologists have provided guidance and overseen all logging and sampling based on the recorded logging details and measured radioactivity. Arafura has reviewed all geological logging information and developed synthesised geological summaries for each drill hole. Arafura's revision process has modified some of the originally logged boundaries and rock types. Geological summaries have been entered into the database using formatted spreadsheets with validation rules to minimise data entry errors. Geological summaries have been internally reviewed for consistency and audited, and used together with assay and geophysical logging data to construct the geological model for Nolans Bore. The mineralised intervals were extracted from the geological model and have been reviewed and reclassified into six material types representing two broad mineralisation styles which were entered into the database. All of this information has been used in the current Mineral Resource estimate. This level of logging detail and its assessment supports appropriate Mineral Resource estimation, mining studies and metallurgical studies. RC holes were logged at one-metre intervals at the rig by the Geologist. RC chips were collected from the polyweave bag, sieved and washed clean for geological logging purposes. Every individual one-metre drill interval was logged in detail by the responsible Geologist, recording sample ID, sample recovery information, grainsize, texture, colour, mineralogy and rock type. The background radioactivity and the radioactivity of each one-metre polyweave bagged sample was measured with a Geiger meter and the dosage recorded. Representative RC chips for each metre interval were placed into pre-numbered chip trays by the responsible Geologist. These are retained and stored in

Perth Office: Level 3/263 Adelaide Tce, Perth WA 6000 ■ PO Box 5773, St Georges Tce, Perth WA 6831 ■ T: +618 6210 7666 ■ F: +618 9221 7966
Darwin Office: 18 Menmuir St, Winnellie NT 0820 ■ PO Box 37220, Winnellie NT 0821 ■ T: +618 8947 5588 ■ F: +618 8947 5599
■ E: arafura@arultd.com ■ W: www.arultd.com

Criteria	Commentary
Logging	Darwin for reference. Chip trays were routinely reviewed and reclogged where necessary as part of the geological synthesis and the material type reclassification. Diamond core was logged by the responsible Geologist in the coreyard at Aileron or Nolans Bore. All diamond core was carefully reconstructed, cleaned and marked up prior to logging. For orientated core, bottom of hole (BOH) marks were extended where reliable and consistent in accordance with industry standards to allow pertinent structural information to be accurately recorded. RQD logs were completed by either the responsible Geologist or a trained field assistant. All diamond core was geologically logged in detail at intervals consistent with recovered geological boundaries. After all logging was completed, assay sample cut-marks were clearly marked on the core by the responsible Geologist. All diamond core was photographed wet and dry showing metre marks and assay sample intervals prior to the sampling process. Down hole geophysical logging data (azimuth, inclination, total magnetic field, natural gamma, gamma density, caliper and resistivity) was collected for all drill holes where possible using open-hole survey methods and a number of different geophysical tools. Down hole geophysical probes were routinely run through the Nolans Bore test hole at the start of each logging campaign to confirm the tools were operating correctly and performing within accepted margins of error.
Sub-sampling techniques and sample preparation	RC chip samples averaging ~4kg were automatically collected via riffle splitter into a pre-numbered calico bag for each one-metre interval drilled. A consistent sample size of 3-6 kg has been achieved across all RC drilling campaigns. Following an assessment by the Competent Person, all 2007/08 RC samples were manually riffle split to avoid potential sampling biases at the rig. With the exception of one RC rig in 2011, all wet samples have been manually riffle split after air drying. Where possible small (<2kg) automatically split RC samples were manually riffle split to achieve the desired ~4kg sample size. Assay samples were collected within 1-3 days, placed in polyweave bags in lots of 4-5 samples and kept dry after collection. Where possible a composited two metre interval was used for RC assay samples. One- and three-metre assay intervals have also been used and not all RC drilling was assayed. RC assay sample selection was done by the Competent Person or a Senior Geologist and involved an assessment of logged geology and radiometric data. As a general rule, composited samples were broadly similar in lithology, radioactivity and sample recovery. Assay samples typically extended at least two metres past identified mineralisation and where possible follow up sampling occurred to close off mineralisation. Field duplicate RC samples were routinely collected in all programs about every 20 RC samples to monitor the precision of the field sampling process. Field duplicate samples were selected by the Competent Person or a Senior Geologist to span the range of expected grades, including waste, and to confirm lithological variations and or contacts. Field duplicate samples always corresponded to individual one-metre RC assay samples. Follow up check samples were also collected to confirm unexpected or unusual assay results. Checks and field duplicates were assigned to the same number series but different to the routine samples. Diamond core was cut in half with a diamond saw and sampled to major lithological boundaries and core loss breaks. Assayed core sample intervals range from 0.08-4.03 metres but intervals less than 0.2 metres and greater than 3.0 metres are not common. In 2011, the most significant diamond core drilling campaign, 99.4% of core samples ranged from 0.2-2.5 metres in length averaging 1.32 metres. The 2006/07 core assay interval averaged 1.41 metres while the 2005 campaigned averaged 1.77 metres largely because the minimum length limit was set at 0.5 metres in 2005. Metallurgical and geotechnical holes have been sampled to combination of metre-marks and lithological

Perth Office: Level 3/263 Adelaide Tce, Perth WA 6000 ■ PO Box 5773, St Georges Tce, Perth WA 6831 ■ T: +618 6210 7666 ■ F: +618 9221 7966
Darwin Office: 18 Menmuir St, Winnellie NT 0820 ■ PO Box 37220, Winnellie NT 0821 ■ T: +618 8947 5588 ■ F: +618 8947 5599
■ E: arafura@arultd.com ■ W: www.arultd.com

Criteria	Commentary
Sub-sampling techniques and sample preparation	boundaries. Metallurgical holes were typically sampled as quarter core for assay. Duplicate core samples were collected at the preparation lab in Pine Creek in 2007 and at Nolans Bore in 2011 by taking a 50/50 split of the coarse crush prior to milling. Core duplicate samples were pre-determined by the Competent Person or a Senior Geologist and assigned to a different number series. Sample preparation was conducted at North Australian Laboratories (NAL) in Pine Creek up to 2008, at Northern Territory Environmental Laboratories (NTEL) in Darwin in 2009-10 and at Arafura's onsite preparation laboratory in 2011. Arafura's onsite preparation laboratory was supervised by the Competent Person or an experienced Senior Geologist and operated by experienced technical staff supplied by Intertek Pty Ltd. Assay sample preparation typically comprised of oven drying, coarse crush of entire assay sample to -2.0 mm nominal size, pulvervising a 1-1.5kg split to 80% passing 100 microns, and then compositing as per instruction lists. Pulp sizing has not occurred, but NTEL and Genalysis have advised that samples have easily met this specification. Compositing instructions were provided for all RC samples and this was done in clean rooms at NAL in Pine Creek and on site at Nolans Bore. A 200-500g master pulp was collected and retained for each milled sample. All diamond core and a portion of the RC samples were analysed as individual samples. The two- and three-metre composited RC assay samples were prepared by combining equal weights from the master pulp of each consecutive one-metre RC sample and thoroughly mixing to form a homogenised composited master pulp. The composited master pulp was sub-split into a 50g assay pulp and a stored master sample pulp. All master and assay pulps have been recovered and are safely stored in Arafura's warehouse in Darwin. Some of the pre-2007 assay masters were destroyed by termites while in storage at NAL in Pine Creek. The confirmatory inter-laboratory assay samples were prepared at NTEL from a sub-split of the original assay sample and dispatched to the referee laboratory by NTEL. Internal standards are sourced from typical Nolans Bore type mineralisation and host rocks using representative assay samples or its master pulp sample after confirmatory inter-laboratory analysis. In 2011, blind standards were inserted by the Competent Person or Senior Geologist at about 1 in 40 basis before dispatch to the assay lab. Blind standards were identical in appearance to the submitted assay pulps and used the same SampleID number series as the field duplicates. The primary sample size is considered appropriate to correctly represent this style of rare earth element (REE) mineralisation and associated alteration, the thickness and consistency of the intersections, sampling methodology, and the assay ranges for the primary elements of interest.
Quality of assay data and laboratory tests	Almost all routine laboratory analyses have been conducted at NTEL in Darwin (now Intertek NTEL) or its predecessor Chemnorth. All primary samples have been analysed by ICPMS/OES using Arafura's standard Nolans Bore assay scheme and suite of elements. Assay samples were digested using NTEL's G321 scheme which uses $HCl/HNO_3/HClO_4$ and is an "ore-grade" digest suitable for Nolans Bore-type mineralisation. The assay values for Al, Ba, Ca, Ce, Dy, Er, Eu, Fe, Gd, Ho, La, Lu, Nd, P, Pr, Sm, Sr, Tb, Th, Tm, U, Y and Yb were then determined by ICPMS/OES. Eu values were not reported for one NTEL assay job (EL03639). Arafura has used the same three-acid digest method and ICPMS/OES assay scheme for all assays of Nolans Bore material. Hence all results are comparable. Minor amendments were made to NTEL's digest protocols in 2005. This minor revision solved some digest solution issues and improved the repeatability of REE results at NTEL. Some early routine and confirmatory analyses were conducted at AMDEL Adelaide using IC3EX and IC3MX which is analogous to NTEL's digest and assay methods. Early confirmatory analyses at AMDEL Adelaide also involved the use of four-acid digest methods (IC4 and IC4R) to confirm their three-acid digest values. Most confirmatory inter-laboratory assays (93.8%) were conducted at Genalysis Laboratories (Perth) using fusion and ICPMS/OES determinations. These data strongly support the NTEL values and attest to the accuracy and precision of NTEL data.

Perth Office: Level 3/263 Adelaide Tce, Perth WA 6000 ■ PO Box 5773, St Georges Tce, Perth WA 6831 ■ T: +618 6210 7666 ■ F: +618 9221 7966
Darwin Office: 18 Menmuir St, Winnellie NT 0820 ■ PO Box 37220, Winnellie NT 0821 ■ T: +618 8947 5588 ■ F: +618 8947 5599
■ E: arafura@arultd.com ■ W: www.arultd.com

Criteria	Commentary
Quality of assay data and laboratory tests	Arafura adopts strict QA/QC protocols using blind standards, laboratory and field blanks and duplicates, Certified Reference Material and internal reference standards all supported by systematic 1:20 inter-laboratory check assays. Assay jobs are rejected and the laboratory instructed to repeat the entire job if the reported assay values for the standards fail to be within tolerance limits. In addition to a thorough assessment of the standards and laboratory duplicate assay results, all laboratory results since 2009 have been carefully evaluated by the Competent Person (Kelvin Hussey) by assessing key elemental ratios prior to loading into the database. All suspect results have been confirmed by repeat assay of the assay pulp or the primary sample as appropriate. Up until 2008, the assessment of all assay results was done by Mr John Goulevitch of Exploremin Pty Ltd. His assessment is considered appropriate as the individual REE, P and U levels of the internal standards and P/REE of all samples were closely monitored. The data used in the 2008 Mineral Resource estimate is accepted, however it is again noted that the AMDEL assays are less precise and of slightly lower quality than the NTEL data. The AMDEL data is generally considered conservative for REE and the results of a single twinned interval of mineralisation comparing AMDEL and NTEL data is comparable to other twinned intervals at Nolans Bore. A total of 1,942 field duplicate samples have been routinely collected at a rate of about 1 in 20 of the assayed samples. Field duplicates were selected by the Competent Person or a Senior Geologist as individual samples that cover the variations in measured radioactivity and logged mineralisation intensity and also include non-mineralised country rocks and lithological contacts to confirm the accuracy of the sampling protocols. RC field duplicate assay samples have been manually riffle split and assigned to a different number series. Assay mis-matches are typically investigated by repeat sampling and assaying of the original RC sample and the two adjacent samples. Core duplicates were sampled as 50/50 splits of the coarse crush. Despite a small number of mis-matches, the outcomes of the field duplicate assay samples are within acceptable tolerance limits with similar results achieved across all programs. The duplicate samples confirm the integrity of the assay sampling protocols and indicate that the confidence in sampling protocols and the assay database is sufficiently high to be reliable. Since 2009, there have been slight modifications to Arafura's protocols for assay QA/QC. These changes bring Arafura's data collection and QA/QC in-line with industry standards and include the systematic inclusion of Certified Reference Material. Despite the absence of Certified Reference Material in routine assay jobs at the primary laboratory prior to 2009, Arafura's systematic use of internal standards is sound practice and the routine assaying of 1:20 inter-laboratory check assays against Certified Reference Material at an independent referee laboratory confirms the primary laboratory results are acceptable. The precision and accuracy of the results from the primary laboratory has been monitored by 3,216 determinations on 64 internal standards from 2000 to present. In addition to these internal standards, a total of 917 determinations on Arafura's CRM ARA09-01 have also been completed as part of routine assay programs since 2009. These standards show the data from the primary laboratory are well constrained and under control for the elements of interest. Laboratory and field blanks demonstrate there are no significant contamination issues and laboratory duplicates show that laboratory practices and protocols are repeatable to a high degree of precision. A total of 1,881 determinations have been conducted on 1,702 duplicate assay samples by secondary laboratories as part of confirmatory referee analyses throughout the history of the project. 1,770 of these determinations or 93.8% of this duplicate assay population have been assayed at Genalysis Laboratories (Perth) since 2007. Genalysis has also systematically assayed CRM ARA09-01 a total 34 times and was involved in the certification of ARA09-01. Despite a small proportion of sample mis-matches, the positive outcomes of the inter-laboratory assay dataset is sufficiently well constrained and indicates the independent inter-laboratory check assays are within the 10% accuracy and precision quoted by primary laboratory. The inter-laboratory assays strongly support and confirm NTEL's assay data and attest to its accuracy and precision. The inter-laboratory check assays also support rare unusual elemental ratios reported at NTEL and

Perth Office: Level 3/263 Adelaide Tce, Perth WA 6000 ■ PO Box 5773, St Georges Tce, Perth WA 6831 ■ T: +618 6210 7666 ■ F: +618 9221 7966
Darwin Office: 18 Menmuir St, Winnellie NT 0820 ■ PO Box 37220, Winnellie NT 0821 ■ T: +618 8947 5588 ■ F: +618 8947 5599
■ E: arafura@arultd.com ■ W: www.arultd.com

Criteria	Commentary
Quality of assay data and laboratory tests	indicate that these are real geochemical features and not simply a partial digest issue, as originally suspected. Results for the main elements of interest in the mineralised samples closely match and are strongly supported by referee laboratories. However, NTEL's results are slightly understated in comparison for very low levels of REE, Y, P, U and Th. This difference is most likely due to the three-acid partial digestion technique used at NTEL and appears to be mostly attributable to trace amounts of digest resistant minerals in low-grade country rocks. Despite both Genalysis and NTEL now being owned by the same parent company (Intertek), the individual laboratories, digest methods and laboratory protocols are sufficiently different to offer an objective and independent opinion of the assay results. Clearly, Genalysis' total digest method should be regarded as the benchmark, however, Genalysis' results are essentially identical to NTEL's results for mineralised samples. As such, the systematic inter-laboratory check assays confirm and strongly support reported assay results for Nolans Bore. The Chain of Custody for all assay samples are routinely monitored by Sample Tracker since 2009. All dispatch samples have been received and all accepted results are loaded and randomly audited to ensure the veracity of the database. As an added QA/QC process all previous data was randomly audited and reviewed in 2011. Prior to 2009, Chain of Custody for all assay samples was closely monitored by Mr John Goulevitch of Exploremin Pty Ltd. Down hole geophysical probes have been calibrated by Borehole Wireline and were routinely run through Arafura's calibration test hole at Nolans Bore at the start of the logging campaign to ensure and monitor the quality of the logging data.
Verification of sampling and assaying	Geologists have logged all recovered RC chip and diamond core samples and conducted a review of all geological data. Diamond core has been photographed with sample intervals clearly labelled. Significant intersections have been independently reviewed and verified by alternative company personnel and the Competent Person. The Competent Person has inspected the sample preparation facility at North Australian Laboratories in Pine Creek, at Intertek NTEL in Darwin, and supervised sample preparation onsite at Nolans Bore. A total of 413 routine jobs have been assayed and officially reported by NTEL Darwin and its predecessor Chemnorth between 2000 and 2012. This represents the bulk of the routine and QAQC assay data with an additional four routine assay and QAQC jobs also conducted in 2005 by Amdel Adelaide. Confirmatory inter-laboratory and QAQC assays have been predominantly conducted and reported by Genalysis Laboratories Perth since 2007 (16 jobs) with AMDEL Adelaide conducting three confirmatory assays jobs prior to this. All confirmatory assay samples were prepared from the same pulp assayed by NTEL and dispatch directly to the referee laboratory by NTEL on behalf of Arafura. No adjustments have been made to any assay data as officially reported, apart from the conversion to equivalent elemental oxides, the addition of elements or oxides as shown below, and as appropriate, the conversion from ppm values to % values. The reported elemental data is stored in the Company's database, except for assays that produced below detection limit values which are stored as negative detection value and reset to view on export as positive half detection value. Eu values were not reported by NTEL job EL03639 and have been recorded as NULL. Six Lu and two Tm values that were below detection limit in this job were erroneously loaded as NULL. Selected elemental oxides or summed elemental/oxide products are also stored in the database and are clearly labelled to avoid any confusion.

Perth Office: Level 3/263 Adelaide Tce, Perth WA 6000 ■ PO Box 5773, St Georges Tce, Perth WA 6831 ■ T: +618 6210 7666 ■ F: +618 9221 7966
Darwin Office: 18 Menmuir St, Winnellie NT 0820 ■ PO Box 37220, Winnellie NT 0821 ■ T: +618 8947 5588 ■ F: +618 8947 5599
■ E: arafura@arultd.com ■ W: www.arultd.com

Criteria	Commentary
Verification of sampling and assaying	REE values are calculated and entered in the database using the following formula: REE = La + Ce + Pr + Nd + Sm + Eu + Gd + Tb + Dy + Ho + Er + Tm + Yb + Lu Oxide conversions and calculations are as follows. The oxides are calculated from the reported elemental values according the following factors listed below: La_2O_3: 1.173 (i.e. ppm La x 1.173 = ppm La_2O_3); CeO_2: 1.228; Pr_6O_{11}: 1.208; Nd_2O_3: 1.166; Sm_2O_3: 1.160; Eu_2O_3: 1.158; Gd_2O_3: 1.153; Tb_4O_7: 1.176; Dy_2O_3: 1.148; Ho_2O_3: 1.146; Er_2O_3: 1.143; Tm_2O_3: 1.142; Yb_2O_3: 1.139; Lu_2O_3: 1.137; Y_2O_3: 1.270; U_3O_8: 1.179; and P_2O_5: 2.291. Rare earth oxide is the industry accepted form of reporting rare earths. The REO (Rare Earth Oxide) is calculated as follows: REO = 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. Nolans Bore-type mineralisation has a remarkably consistent and uniform REE mix. Hence the REO can typically be estimated and has been reported as follows: REO = REE x 1.20. The actual conversion factor for the total Mineral Resource is 1.1994 which is very close to 1.20 and well within analytical errors, rounding and general reporting guidelines. The Competent Person has used geological logs, assay results and selected geochemical ratios to determine and assess the REE mineralisation.
Location of data points	The grid system for Nolans Bore is based on GDA94 and MGA Zone 53 coordinates. All drill collars up to 2004 were pegged by hand-held GPS or by compass and tape with an accuracy of about five metres prior to drilling. All drill collars since 2005 have been accurately pegged by a professional Surveyor (Brain Blakeman Surveys). All drill collars were capped and clearly labelled when completed and have been accurately re-surveyed by Brian Blakeman Surveys. All collars except for the Nolans Bore test hole have been cut, capped and buried in accordance with rehabilitation guidelines. Down-hole directional surveys have been routinely determined by the relevant Driller at 30m intervals by either single-shot Eastman camera surveys or single shot electronic orientation probes. Down hole directional surveys have been acquired by Borehole Wireline for all open holes. Borehole Wireline have been able to survey most holes to some extent with accurate surveys collected for more than 60% of the drill metres. This level of accuracy is sufficient for the scope of the program undertaken. Brian Blakeman Surveys has surveyed and prepared a Digital Elevation Model (DEM) for the Nolans Mineral Lease application area.
Data spacing and distribution	The principal drilling grid is orientated at 145 degrees from North and has a nominal 40m x 40m spacing over the main parts of Nolans Bore with localised infill drilling to a nominal 20m by 20m spacing in the central north zone. The deposit has been systematically drilled to about 150-180m drilling depth in most places with systematic deeper diamond core drilling to 250m drilling depth on every second drill section

Perth Office: Level 3/263 Adelaide Tce, Perth WA 6000 ■ PO Box 5773, St Georges Tce, Perth WA 6831 ■ T: +618 6210 7666 ■ F: +618 9221 7966
Darwin Office: 18 Menmuir St, Winnellie NT 0820 ■ PO Box 37220, Winnellie NT 0821 ■ T: +618 8947 5588 ■ F: +618 8947 5599
■ E: arafura@arultd.com ■ W: www.arultd.com

Criteria	Commentary
	across most of the deposit. Wider spaced RC drilling occurs in the peripheral areas.
Orientation of data in relation to geological structure	The deposit has been systematically defined by using drill holes inclined at -60 towards 145 degrees. The costeans also closely match this principal drilling direction which typically yields geological data at a moderate to high angle to the general strike and dip of the mineralisation in the north and southeast of the deposit. In 2011 it was realised that a massive body of mineralisation trends close to north-south in the central zone. Hence 24 diamond core holes were specifically drilled from surface on six 100-metre spaced east-west sections to resolve the geological complexity of the zone.
Sample security	The project area is remote and no unauthorised persons entered the property during drilling and sampling operations. Up to 2008, all RC assay samples were collected from the drill site and placed into sealed polyweave bagged lots of four to five samples. These were then placed in one tonne bulka bags which were temporarily stored at Aileron in readiness for transport by freight companies to NAL in Pine Creek. The bulka bags were loaded into locked shipping containers and transported to the laboratory for sample preparation. Drill core samples were logged, marked up and photographed at Aileron before the trays were palletised and transported to NAL in Pine Creek for SG determinations, cutting and sampling. Drill core assay samples were bagged and delivered directly to the preparation facility at NAL, Pine Creek. Assay sample pulps were dispatched in batches by courier from NAL to NTEL in Darwin. Back up master assay pulps were stored on pallets at Pine Creek until no longer needed. In 2009, drill core was logged, cut and sampled on site at Nolans Bore and assay samples placed in polyweave bags, stored in 205 litre steel drums and transported to NTEL in Darwin for sample preparation and analysis. In 2010, RC samples were placed in sealed polyweave bagged lots of four to five samples, placed in drums and transported to NTEL in Darwin for sample preparation and analysis. In 2011, RC assay samples were collected from the drill site, placed in sealed polyweave bagged lots of four to five samples and temporarily stored at onsite in a fenced laydown storage area adjacent to Arafura's preparation facility. Cut core samples were individually bagged and temporarily stored on pallets in the laydown area. RC and core assay samples were then "delivered" in batches to a designated area adjacent to the preparation laboratory. Prepared assay sample pulps were checked by the Competent Person or Senior Geologist, and blind standards were inserted before transporting to the Alice Springs and then on to NTEL in Darwin in sealed space-cases. Master pulps were stored in a locked shipping container adjacent to the onsite preparation laboratory. Chain of custody documentation and lists of all submitted samples was included with all assay jobs. Assay sample pulps have been recovered from the laboratory for safe long-term storage at Arafura's exploration storage facility in Darwin. All drill core has been transported to Darwin for safe long term storage.

Perth Office: Level 3/263 Adelaide Tce, Perth WA 6000 ■ PO Box 5773, St Georges Tce, Perth WA 6831 ■ T: +618 6210 7666 ■ F: +618 9221 7966
Darwin Office: 18 Menmuir St, Winnellie NT 0820 ■ PO Box 37220, Winnellie NT 0821 ■ T: +618 8947 5588 ■ F: +618 8947 5599
■ E: arafura@arultd.com ■ W: www.arultd.com

Criteria	Commentary
Audits or reviews	Arafura's Geologists have reviewed and audited all geological data in the database. The Competent Person has randomly audited the reported assay data against that loaded in the database. The geology of all mineralised intersections in the model were reviewed as part of a new material type classification.

Perth Office: Level 3/263 Adelaide Tce, Perth WA 6000 ■ PO Box 5773, St Georges Tce, Perth WA 6831 ■ T: +618 6210 7666 ■ F: +618 9221 7966
Darwin Office: 18 Menmuir St, Winnellie NT 0820 ■ PO Box 37220, Winnellie NT 0821 ■ T: +618 8947 5588 ■ F: +618 8947 5599
■ E: arafura@arultd.com ■ W: www.arultd.com

Section 2: Reporting of Exploration Results

Criteria	Commentary
Mineral tenement and land tenure status	The Nolans Bore deposit is located wholly within Exploration Licence (EL) 28473 which is 100% owned by Arafura Resources Ltd. The deposit lies within the area covered by Mineral Lease (ML) application 26659 which is 100% owned by Arafura Rare Earths Pty Ltd., a wholly-owned subsidiary of Arafura Resources Ltd. The tenement is situated on Pastoral Land and the known mineralisation spans the boundary between Aileron (PPL 1097) and Pine Hill (PPL 1030) Stations. Arafura Resources has executed a Native Title Exploration Agreement with the Central Land Council (CLC) on behalf of the Native Title Holders for this tenement. Arafura was issued Sacred Site Clearance Certificates which provides clearance for the exploration and drilling activities conducted at Nolans Bore. At the time of reporting, there are no known impediments to obtaining a license to operate in the area and the tenement is in good standing.
Exploration done by other parties	PNC Exploration (Australia) Pty Ltd conducted regional exploration programs in the project area in 1994-1996. They discovered the Nolans Bore prospect by following up a substantial airborne radiometric anomaly. PNC conducted ground radiometric surveys, and sampled and assayed the surface outcrops. No other work has been done at Nolans Bore by other parties.
Geology	The Nolans Bore REE-P-U deposit is a complex, 3D hydrothermal stockwork vein-style deposit which occurs in the Aileron Province of the Arunta Region in the Northern Territory, Australia. Isolated parts of the deposit crop out but for the most part it is concealed beneath a thin layer of alluvial and colluvial transported cover. The deposit is characterised by massive fluorapatite mineralisation which ranges from discrete narrow fine-grained veins to wide intervals of massive coarse-grained breccias. The massive fluorapatite-rich rocks contain up to about 95% fluorapatite and typically contain abundant mineral inclusions of REE-bearing minerals, such as monazite group minerals, allanite, thorite and numerous other REE phosphates, silicates and carbonates. The fluorapatite itself contains variable amounts of REE but a higher proportion of REE is hosted in the mineral inclusions. The associated calcsilicate style of mineralisation can contain fluorapatite and other REE-bearing minerals and are typically dominated by pyroxene, amphibole, epidote-allanite, carbonate, quartz, plagioclase, zeolites, garnet, scapolite and titanite. The calcsilicate rocks are strongly associated with the massive fluorapatite mineralisation but tend to be lower grade where mineralised. The Nolans Bore mineralisation and its associated alteration are hosted by metamorphosed Palaeoproterozoic igneous and sedimentary rocks of the Aileron Province in the Arunta Region. Some of the country rocks also contain low grade REE mineralisation (e.g. the coarse-grained to pegmatitic granitoid commonly contains up to 0.3% REE and can locally exceed 1% REE in metamorphic monazite) but these rock types and grades markedly contrast with the typical Nolans Bore mineralisation and have not been included in the resource estimate.

Perth Office: Level 3/263 Adelaide Tce, Perth WA 6000 ■ PO Box 5773, St Georges Tce, Perth WA 6831 ■ T: +618 6210 7666 ■ F: +618 9221 7966
Darwin Office: 18 Menmuir St, Winnellie NT 0820 ■ PO Box 37220, Winnellie NT 0821 ■ T: +618 8947 5588 ■ F: +618 8947 5599
■ E: arafura@arultd.com ■ W: www.arultd.com

Criteria	Commentary
Geology	The deposit is hosted by metamorphosed Proterozoic sedimentary and igneous rock units that have undergone high-grade metamorphism during the 1525-1600 Ma Chewings Orogeny and are interpreted to be parts of the Aileron Metamorphics, Lander Rock beds and the Boothby Orthogneiss as mapped in nearby outcrops. Large intrusive bodies of coarse-grained to pegmatitic granitoid form a major component of the host country rocks at Nolans Bore. These units can be traced as coherent bodies (dykes and sills) and can be differentiated geophysically and geochemically from other country rocks and mineralisation. As such, these rocks form important marker units. The interpreted geological distribution suggests these granitoid bodies are mutually exclusive of mineralisation. However, relationships in drill core clearly indicate the mineralisation postdates the granitoids. The currently favoured geological model suggests that mineralisation is preferentially formed in strain zones within the country rock gneisses and schists adjacent to the more competent, massive coherent coarse-grained to pegmatitic granitoid bodies. This structural relationship was first proposed in 2006 and is still supported. Nolans Bore-type mineralisation and its associated alteration is geologically and geochemically distinct from the surrounding host rocks and clearly post-dates the high-grade metamorphism in the host rocks. Large parts of the deposit remain relatively undeformed however some parts are overprinted by the Devonian-Carboniferous Alice Springs Orogeny and Cainozoic weathering. Despite localized overprinting effects, the geochemistry of the mineralisation is very similar throughout, hence the mineralisation is defined by an enveloping surface which encompasses all Nolans Bore-type mineralisation at a cut-off of >0.5% REE. Systematic drilling indicates the widespread presence of mineralised veins up to tens of metres in thickness and hundreds of metres in length, extending below 250 m drilled depth across parts of the deposit. The full extent of the deposit is yet to be outlined but deeper drilling has demonstrated mineralisation and alteration at about 490 m drilled depth in the central north zone. Nolans Bore-type mineralisation and associated alteration has been recognised in surface exposures and drilling over an area of about 3 km x 3 km.
Drill hole information	This section is not relevant to reporting Mineral Resources. No exploration results have been reported in this release
Data aggregation methods	This section is not relevant to reporting Mineral Resources. No exploration results have been reported in this release.
Relationship between mineralisation widths and intercept lengths	This section is not relevant to reporting Mineral Resources. No exploration results have been reported in this release.
Diagrams	This section is not relevant to reporting Mineral Resources. No exploration results have been reported in this release.
Balanced reporting	This section is not relevant to reporting Mineral Resources. No exploration results have been reported in this release.

Perth Office: Level 3/263 Adelaide Tce, Perth WA 6000 ■ PO Box 5773, St Georges Tce, Perth WA 6831 ■ T: +618 6210 7666 ■ F: +618 9221 7966
Darwin Office: 18 Menmuir St, Winnellie NT 0820 ■ PO Box 37220, Winnellie NT 0821 ■ T: +618 8947 5588 ■ F: +618 8947 5599
■ E: arafura@arultd.com ■ W: www.arultd.com

Criteria	Commentary
Other substantive exploration data	Arafura acquired a detailed, low-level airborne magnetic and radiometric survey over the Aileron-Reynolds project area in 2008. This survey covers the Nolans Bore deposit with additional adjoining airborne surveys acquired in 2011 and 2013. Arafura's proprietary airborne surveys are in addition to the publicly available airborne geophysical datasets. A regional airborne hyperspectral survey was acquired over most of the outcropping areas in the Aileron-Reynolds project area in 2008. This survey covers the Nolans Bore deposit and surrounds. Arafura acquired detailed World View 2 satellite imagery (0.5m pixel resolution) over the Nolans Bore project area in 2012. Additional regional and less detailed SPOT5 satellite imagery (2.5m pixel resolution) was also purchased over the project area in 2012. Arafura has recently acquired additional adjoining detailed World View imagery cover the proposed developments in the Nolans Project area. Arafura has collected extensive geological, geotechnical and metallurgical data from the Nolans Bore deposit and surrounds in support of its exploration and resource definition programs. Arafura has collected a substantial biogeochemical orientation dataset over the Nolans Bore deposit and surrounds and is using this to assist in targeting exploration in areas under cover (eg Mulga prospect ASX: ARU 8/11/2013). Arafura has discovered substantial ground water resources to the south and southwest of Nolans Bore and has applied for a water extraction licence (ASX: ARU 22/10/2014).
Further work	At this stage no further resource definition drilling is planned at Nolans Bore. Grade control and sterilisation drilling programs are planned. Detailed gravity and magnetic surveys are planned with modelling to investigate the depth potential of the deposit. Additional waste rock characterisation and modelling is planned in line with Arafura's Radiation Management Strategy and the proposed development of Nolans Bore. Geological mapping and prospecting is planned at exploration targets in Arafura's Aileron-Reynolds land package.

Perth Office: Level 3/263 Adelaide Tce, Perth WA 6000 ■ PO Box 5773, St Georges Tce, Perth WA 6831 ■ T: +618 6210 7666 ■ F: +618 9221 7966
Darwin Office: 18 Menmuir St, Winnellie NT 0820 ■ PO Box 37220, Winnellie NT 0821 ■ T: +618 8947 5588 ■ F: +618 8947 5599
■ E: arafura@arultd.com ■ W: www.arultd.com

Section 3: Estimation and Reporting of Mineral Resources.

Criteria	Commentary
Database integrity	All relevant data is stored in Arafura's Geobank database. Arafura's database was originally developed and populated in 2009/10 in conjunction with Micromine. Prior to this all digital data was stored in various master spreadsheets populated and held by Exploremin Pty Ltd. Micromine assisted Arafura in the development of its relational database structure with internal checks and validation procedures as per industry standard. Primary data sources were used during the initial database load to minimise transcription or keying load errors. The data was audited during the initial load stage however a small number of non-material issues have since been discovered and most of these have been rectified. Minor structural changes were made to the database since its inception. The recent changes made in 2014 have no material impact on the current resource estimate as no new data has been added within the main mineralised area. The database has routinely scheduled back ups and all data entries or modifications are date stamped with the responsible person's name. Only trained personnel approved by Arafura's database administrator can add or edit data and all new data is audited on import to ensure integrity. All data is captured in the database and can be viewed within the database. However exported data is prioritised as and where appropriate such that only priority values can be viewed or used for certain fields. For example, 'check' assays are not shown if they support the original result but both are stored in the database for completeness. Extracted database views and a Microsoft Access database snapshot for the current estimate is stored digitally in the Nolans Bore project directory on Arafura's server as a permanent record of the data used in this estimate. All RC logging data and all geological summaries for the RC and drill core have been transferred to digital form and loaded into the database. All drillhole information was originally logged directly onto paper logging sheets by the geologist, then scanned and securely filed or stored digitally in the Nolans Bore project directory on Arafura's server. The paper logsheet and the scanned copy are available for all drill holes and have been used to validate and cross-reference audits, edits and geological reviews. Extensive geological descriptions were allowed for and acquired by most geologists on the drill core logsheets. Concise lithological summaries have been developed for the drill core following geological revision, synthesis and recoding with standardised lithological information by Arafura and have been entered into the database instead of the more extensive entries. The original logging sheets have been scanned and securely filed or stored digitally in the Nolans Bore project directory on Arafura's server. The digital capture process involved data entry using specifically formatted spreadsheets with drop-down lists and built-in validation checks to minimize transcription and keying load errors. The database administrator has carefully checked and audited all digitally captured data. Arafura have conducted a number of in-house workshops to review and re-interpret geological summaries for each drill hole. In 2011, geological summaries were prepared by the responsible geologist on the formatted spreadsheet, and reviewed and checked by the Arafura team for internal consistency. Earlier drillhole summaries used in the previous resource estimate were reviewed in 2011 to ensure internal consistency across all programs. All geological summaries were reviewed audited for consistency by Arafura's database administrator. All logging and survey information was reviewed by the responsible rig Geologist prior to the Senior Geologist and team review. The data was again reviewed by the database administrator prior to the final data load into the database.

Perth Office: Level 3/263 Adelaide Tce, Perth WA 6000 ■ PO Box 5773, St Georges Tce, Perth WA 6831 ■ T: +618 6210 7666 ■ F: +618 9221 7966
Darwin Office: 18 Menmuir St, Winnellie NT 0820 ■ PO Box 37220, Winnellie NT 0821 ■ T: +618 8947 5588 ■ F: +618 8947 5599
■ E: arafura@arultd.com ■ W: www.arultd.com

Criteria	Commentary
Database integrity	The rig Geologist is the first to check and validate of the field data by the reviewing the geological log and chips checking sample ID, missing data entries, obvious logging errors or atypical surveys or radiometric readings. The next stage occurs as part of the assay sample selection process when the logsheet was scanned and reviewed by the onsite Senior Geologist or Competent Person. The third stage occurred during the data entry and load supervised by the Database Administrator. The fourth stage occurred during the review and synthesis of the geological summaries when all data was exported from the database and reviewed prior to the development of the geological model and mineral resource estimate. During this stage geological summary is again checked for its integrity against its associated downhole logging data and the drill chips, core photographs or drill core (if required) to ensure the validity of the data. Sample identification numbers are unique. Routine sample number series differ to field duplicate and any supporting field check samples. Certified and Internal Standards and blanks are assigned unique numbers in the database to match their assay job number. Since 2010, all assay samples have been dispatched and receipted using the Sample Tracker module in Geobank. This ensures all assay results from the laboratory are accounted for and loaded against the correct samples. All specifically dispatched samples have been specifically receipted. Assays within the database are accepted as final once they passed the Competent Person's (Kelvin Hussey) review. The QAQC process involved an initial assessment by database administrator of La, Ce, Nd, P and U values for the certified and blind standard, inserted in each assay job, against automated QAQC reports. The assay data was then thoroughly reviewed by the Competent Person, checking REE, P, U, Th for the internal standards, blanks, lab duplicates and inter-element ratios for all unknown samples. The results were only accepted and loaded once they passed the QAQC process. Assay samples prior to 2009 were re-dispatched and re-receipted as part of a bulk load soon after the database was developed. AMC discovered two Tm and six Lu records were incorrectly loaded as NULLs instead of below detection limit values during this process. These were from six non mineralised RC samples drilled and assayed in 2001 and although incorrectly loaded, are immaterial. Arafura also discovered that some erroneous Ce and La values were supplied to AMC for some samples in this early assay job as well. The erroneously exported La and Ce results were slightly too high for some samples and slightly too low for others. Close inspection and auditing of the data demonstrated these were not significant issues as the exported values were typically within the quoted analytical error. This export error arose because both ICPMS and ICPOES values were reported by NTEL and loaded directly into the database. Since this job, NTEL demonstrated that these methods both have different working ranges and assay should be reported accordingly. These export errors have since been corrected in the database. No other data load or export issues have been detected. Assay loads are validated by manually checking the reported results of at least two samples per assay job on the laboratory assay certificate against the results loaded and stored in the database. Downhole LAS logging data for 2011 is fully loaded into the database based on downhole survey files supplied by Borehole Wireline. Unless the holes were extended with a drill core tail in 2011, the LAS files for all holes prior to 2009 have not been fully loaded into the database and only their 10m interval survey data has been loaded. The database has views and tables of the 10m survey data as well as density and gamma data are routinely picked at or averaged over one metre-intervals using database routines. The LAS survey data has highest priority and is used instead of the driller's single shot survey. The driller's single shot survey records are used where LAS survey data is not available, providing the single shot survey records passed tolerance limits. The combined 10 m survey data is checked for azimuth and inclination deviations >5 degrees. Excessive deviations are considered unlikely and not accepted. The survey data was loaded in Surpac for 3D spatial viewing to ensure the conformity of the surveyed drillhole path.

Perth Office: Level 3/263 Adelaide Tce, Perth WA 6000 ■ PO Box 5773, St Georges Tce, Perth WA 6831 ■ T: +618 6210 7666 ■ F: +618 9221 7966
Darwin Office: 18 Menmuir St, Winnellie NT 0820 ■ PO Box 37220, Winnellie NT 0821 ■ T: +618 8947 5588 ■ F: +618 8947 5599
■ E: arafura@arultd.com ■ W: www.arultd.com

Criteria	Commentary
Database integrity	Both internal (ARU) and external (AMC) validations are completed when the data is loaded into spatial software for geological interpretation and resource estimation. AMC check the data for missing intervals, missing samples, downhole survey deviations of ±10º in azimuth and ±5º in inclination when loading into CAE Studio 3 (Datamine).
Site visits	Kelvin Hussey is a full time employee of Arafura Resources and visits Nolans Bore regularly during site operations. John Tyrrell has not visited the site although several other representatives of AMC visited in 2011 during site operations.
Geological interpretation	Other styles of REE mineralisation were originally considered however many do not have the same geological host rocks, alteration styles or mineralogy as Nolans Bore. Structurally controlled vein deposits show similarities to Nolans Bore. The mineralisation is hosted within structurally controlled veins and breccias, with localised structural reworking and overprinting alteration causing some geological complexity. The geometry of the deposit is 3D and complex and typically shows a close spatial relationship to sheared contacts to adjacent coarse-grained to pegmatitic granitoids/orthogneisses. Geological observation has underpinned the geological model and the resource estimation. Rock type, mineralogy, alteration style, geochemistry and radioactivity were used to define the geological boundaries. The geological model was developed as an iterative process of checking against logging, geological summaries, photography, radiometric data, geochemistry and re-assessing drill core and drill chips where necessary. Interpretation of the massive pegmatitic units and the adjacent mineralised bodies are considered important aspects of the deposit's geological model. The mineralisation and its associated alteration has a characteristic and uniform REE signature which together with P, U, Th and Sr clearly differentiates it from all surrounding host rocks. The pegmatitic units typically contain up to 0.3% REE although locally they can exceed 1% REE. The REE, Th, U and P signature of the pegmatite units are distinctly different from typical Nolans Bore type mineralisation and unless the pegmatite is internal waste or overprinted by Nolans Bore type alteration, it has been excluded from the mineralised bodies in the geological interpretation. The pegmatite and Nolans Bore type mineralisation are generally mutually exclusive. The observations regarding the geological model and the extent of the interpreted mineralised envelope are typically robust. Parts of the southeast zone however are less certain geologically given the small amount of near surface drill core and the wider spaced drilling in this area. During the wireframing process, AMC proposed an alternative interpretation for the geometry of the mineralised veins in the southeast, however this was discounted as it contrasted with available data and Arafura's proposed model. Geological work is on-going to gain a better understanding of the deposit. AMC was provided with a sectional based geological interpretation by Arafura geologists. This was used as a basis for construction of three dimensional wireframes for the 104 separate sub-domains, which included 102 mineralisation objects and two background waste units. AMC produced wireframes of the mineralisation and granitoids which were iteratively audited, edited and verified by Arafura and AMC until a consensus was reached that the geological model matched Arafura's geological interpretation. The individually coded domains (numeric field DOMAIN) were combined into eleven grouped domains, flagged by a numeric field ZONECODE, with the north zone having four, the central zone having three and the south-east zone grouped as one. The background schist, pegmatite and undifferentiated other background make up the remaining three ZONECODEs. The extents of the geological model were constrained by drilling and costeaning. Geological boundaries had only minimal extrapolation beyond drilling in line with resource classifications of indicated or inferred and in most cases the extrapolation is conservative to avoid excess volume.

Perth Office: Level 3/263 Adelaide Tce, Perth WA 6000 ■ PO Box 5773, St Georges Tce, Perth WA 6831 ■ T: +618 6210 7666 ■ F: +618 9221 7966
Darwin Office: 18 Menmuir St, Winnellie NT 0820 ■ PO Box 37220, Winnellie NT 0821 ■ T: +618 8947 5588 ■ F: +618 8947 5599
■ E: arafura@arultd.com ■ W: www.arultd.com

Criteria	Commentary
Geological interpretation	Key factors that are likely to affect the continuity of grade are: • The inherent variability of brecciated rocks. Breccia characteristics can change rapidly on a centimetre to metre scale. • The inherent variability of veins. The continuity and thickness of veins can change along strike. The veins can show sharp but irregular boundaries. The vein intensity and amount of altered host rocks included with the mineralised vein system can change. • Overprinting structures can disrupt or influence the continuity of the mineralised system.
Dimensions	The Nolans Bore mineralisation is mostly concentrated in an area of about 1,100m north-south by 1,500m east-west. Systematic drilling has typically confirmed down dip extensions from the surface or near surface down to vertical depths of 215m, with many veins and zones remaining open at depth. The north zone has a strike length of around 1,000m and local deep drilling has demonstrated mineralised veins and bodies extending from surface or near surface down dip to a vertical depth of about 400m in the central parts of the north zone. The main mineralised lodes in the north zone collectively trend slightly north of east with the main lodes predominantly aligned with the strike direction at approximately 060º, dipping steeply to the north. The main mineralised lodes in the central zone strike approximately north-south and have a strike extent of about 500m. Parts of the north and central zones have mineralised bodies that are more than 50m thick. Mineralised lodes in the south-east zone are up to 350m long and defined into two broad zones dominated by a southeast to northwest strike of approximately 330º and an approximate east-west strike of approximately 075º to 080º. All dips are steep to sub-vertical and are to the north-north- west in the north and south-east zones and are a combination of east and north-north- east dips in the central area.
Estimation and modelling techniques	Datamine software was used to model and estimate the resources. Grade estimation was completed using ordinary kriging (OK) for the Mineral Resource estimate. As the drillhole spacing varies, with the central north zone being drilled at approximately 20 m centres (20 m apart in east and west directions) and the central and south-east zones at best approximately 40 m centres, two separate prototypes were used. The original drilling grid is orientated at 145º and the block model prototypes are aligned to the national grid as shown below. The north prototype had a parent cell size of 12.5 m in easting and northing dimensions (X and Y respectively) and 5 m in elevation (Z). The south prototype had a larger parent cell size of 25 m in X and Y and 5 m in Z. This corresponds with approximately half the local drillhole spacing when viewed in the directions of the national grid.

Perth Office: Level 3/263 Adelaide Tce, Perth WA 6000 ■ PO Box 5773, St Georges Tce, Perth WA 6831 ■ T: +618 6210 7666 ■ F: +618 9221 7966
Darwin Office: 18 Menmuir St, Winnellie NT 0820 ■ PO Box 37220, Winnellie NT 0821 ■ T: +618 8947 5588 ■ F: +618 8947 5599
■ E: arafura@arultd.com ■ W: www.arultd.com

Criteria	Commentary
Estimation and modelling techniques	**Nolans Bore 2012 - Volume Model Prototypes** (see table below) The model created for the north prototype only included mineralisation domains, whilst the south prototype included mineralisation domains for the south-east and central zones, as well as the waste domains for the complete deposit. The north prototype volume model was converted to the south prototype and added to the south block model after the grade estimation to produce a single grade model. Composite statistics for the three primary variables for estimation (REE%, P% and U%) were analysed to determine if any domain had unusually high grade outliers that would need to be top-cut. All of the ZONECODE divisions have very low coefficients of variation, usually less than 1.0. No ZONECODE had any values top-cut for REE%, P% or U%. Variography was performed on the three main variables (REE%, P% and U%) to determine the best estimation strategy for each ZONECODE. Variograms were modelled for ZONECODEs 100, 200, 310 and 400. These are the only areas with sufficient data to generate robust variograms. The remaining mineralisation ZONECODEs use the most appropriate variogram from an adjacent area, scaled to the local variance. No variography was performed on the waste domains, ZONECODEs 900, 910 and 9999, and these areas do not have a kriged estimate. All variography was completed in three-dimensional space, to allow for any plunge component to be modelled. Downhole variograms generally show low to moderate nugget values, reflecting the generally low coefficient of variation values seen in the descriptive statistics. Directional variogram quality is generally good to moderate, but with obvious major continuity directions evident from the variogram fans. The major continuity directions are generally sub-parallel to the main strike of the domains, although in the south-east zone, there are two obvious strong continuity directions, being approximately 145º and approximately 070º in orientation. The quality of REE% variography is generally the most reliable, with the quality reducing in the P% variograms and the poorest quality evident in the U% variograms. Three of the ZONECODEs had directional anisotropic variograms modelled, with two ZONECODEs, 200 and 310, having omni-directional variograms modelled. The minor direction second range was shortened for the search ellipse, by using the downhole variogram.

Nolans Bore 2012 - Volume Model Prototypes

Prototype	Axis	Origin (Local Grid Coordinates)	Parent Cell Dimensions (m)	Number of Parent Cells	Maximum Splits	Smallest Sub-Cell Size (m)
North	X	318060 mE	12.5	142	8	1.563
	Y	7501000 mN	12.5	134	8	1.563
	Z	320 mRL	5	76	8	0.625
South	X	318060 mE	25	71	8	3.125
	Y	7501000 mN	25	67	8	3.125
	Z	320 mRL	5	76	8	0.625

Perth Office: Level 3/263 Adelaide Tce, Perth WA 6000 ■ PO Box 5773, St Georges Tce, Perth WA 6831 ■ T: +618 6210 7666 ■ F: +618 9221 7966
Darwin Office: 18 Menmuir St, Winnellie NT 0820 ■ PO Box 37220, Winnellie NT 0821 ■ T: +618 8947 5588 ■ F: +618 8947 5599
■ E: arafura@arultd.com ■ W: www.arultd.com

Criteria	Commentary
Estimation and modelling techniques	Grade is estimated into the eleven ZONECODEs as defined by the geological interpretation and drillhole data. Grades are estimated for a suite of REEs as a total of the individual assay values (REE%), uranium and phosphorus. The suite of elements includes Ce, Dy, Er, Eu, Gd, Ho, La, Lu, Nd, Pr, Sm, Tb, Tm and Yb. The estimated grades also included Y, but this was not added to the total REE% values. Initially, grade was estimated for the three primary variables of interest, REE%, U% and P%. Three separate grade estimation runs were performed, with the northern area ZONECODEs (100, 101, 110 and 200) being estimated by ordinary kriging (OK) first, followed by the remaining non-waste domains. The pegmatite, schist and background ZONECODEs were estimated using inverse distance estimation, to the power of two (ID^2). The southern mineralisation and waste models were added together after estimation, with the northern area model being translated to the southern area model prototype before adding. All of these models had hard boundaries so that no grade from the mineralisation was smeared into the background waste domains. The separate estimation and later addition ensured that all sub-models were combined on the same prototype for a common final parent cell size, but allowed the northern area to use the higher density drilling for better local estimation into originally smaller parent cells. All grades were estimated into parent cells, with all sub-cells receiving the same grade as their parent. Cell discretisation was set to 5, 5, and 3 in the cell X, Y and Z directions respectively. Parameter files were created for search, variogram and estimation parameters and these were read into a Datamine macro that allowed multiple estimation runs to test the parameters and the final output model. Initial search ellipses were set to the directions and ranges of the respective variograms. These were tested by iterative means and the final ellipses were chosen to be approximately half to two-thirds the longest variogram ranges in each direction, with the longest axis (for the anisotropic searches) being along or sub-parallel to the strike of the major direction of continuity. Each grade estimate is performed in a series of three passes, with cells not estimated in the first pass using an expanded search ellipse for the second pass and likewise for the third pass. The expansion factors are times 2.5 for the second pass and times 4 for the third pass. The maximum number of composite samples allowed for the first pass estimate ranges from 25 to 35, with a minimum of ten. The third pass uses a maximum of 30 samples and a minimum of two. Nearly all cells in the central part of the northern area were estimated on the first pass and used the maximum allowed number of informing samples for REE%, U% and P%. During the estimation, kriging weights were allowed to be negative and a maximum of six samples were allowed per drillhole. On completion and initial validation of the initial estimation runs for the three primary variables of interest, a second set of variogram, search and estimation parameters were created to allow for estimation of the individually assayed REEs. The variogram and search parameters for each estimated ZONECODE used the REE% variables from the initial estimate. The elements estimated in this second round of estimates were Ce, Dy, Er, Eu, Gd, Ho, La, Lu, Nd, Pr, Sm, Tb, Tm, Yb and Y.

Perth Office: Level 3/263 Adelaide Tce, Perth WA 6000 ■ PO Box 5773, St Georges Tce, Perth WA 6831 ■ T: +618 6210 7666 ■ F: +618 9221 7966
Darwin Office: 18 Menmuir St, Winnellie NT 0820 ■ PO Box 37220, Winnellie NT 0821 ■ T: +618 8947 5588 ■ F: +618 8947 5599
■ E: arafura@arultd.com ■ W: www.arultd.com

Criteria	Commentary
Estimation and modelling techniques	Arafura has identified six material types that reflect alteration and mineralisation mineralogy and might be taken into account in evaluating treatment options. The material types are: • cream/green apatite • brown apatite • apatite with kaolin or clay • apatite and allanite • apatite, allanite and calc-silicate • apatite, allanite, calc-silicate and kaolin or clay. Arafura provided AMC with drillhole intersections coded for material type and they were estimated into the resource model using nearest neighbour estimation. Drillhole data were constrained by the mineralisation wireframe in which a drillhole fell and search ellipse orientations mirrored those used for grade estimation. The same parent cell protocol was used as in grade estimation with the more closely drilled northern part of the model estimated into smaller parent cells.
Moisture	All tonnages are estimated on a dry basis.
Cut-off parameters	The geological model was developed using all available geological data and uses a 0.5% REE (excluding Y) lower cut-off grade. This geological model differentiates typical Nolans Bore-type mineralisation from the pegmatitic granitoids in the area which typically assay up to about 0.3% REE. The resources were estimated using the wireframed geological model and a 1% REO lower cut-off. Ytrrium was excluded from the combined REO.
Mining factors or assumptions	It is assumed that the deposit will be mined using traditional drill and blast open-cut methods.
Metallurgical factors or assumptions	Metallurgical information is based on an extensive dataset of various material types sourced from 2004-2011 exploration programs at Nolans Bore using representative RC drilling residues and HQ3 drill core intervals, plus larger bulk samples obtained from two shallow (2.5 metre deep) costeans and deeper material collected from wide-diameter augered/cored holes (7-64.5m deep). The sampled material is considered representative of the first 7 years of production from the mine.

Perth Office: Level 3/263 Adelaide Tce, Perth WA 6000 ■ PO Box 5773, St Georges Tce, Perth WA 6831 ■ T: +618 6210 7666 ■ F: +618 9221 7966
Darwin Office: 18 Menmuir St, Winnellie NT 0820 ■ PO Box 37220, Winnellie NT 0821 ■ T: +618 8947 5588 ■ F: +618 8947 5599
■ E: arafura@arultd.com■ W: www.arultd.com

Criteria	Commentary
Metallurgical factors or assumptions	Initial variability and comminution studies have been conducted on representative intervals using RC and drill core samples. Further work is in progress. Qualitative mineralogical and geochemical analysis of 19 bulk samples submitted for metallurgical test work has been completed. This assessment has addressed all material types and a range of head grades typical of Nolans Bore type mineralisation. A comparative detailed study has been completed on 21 thin sections selected from representative type examples in drill core with supportive and less detailed microanalysis conducted on about 50 other thin sections. Lab scale and pilot metallurgical test work programs using the various material types have demonstrated that Nolans Bore type mineralisation can be beneficiated into a rare earth mineral concentrate. Arafura designed and developed a flowsheet that lead to the processing of Nolans Bore-type mineralisation and the recovery of five separate REO products that meet customer specifications and requirements. Arafura is currently reviewing and assessing alternative flowsheet designs and improvements.
Environmental factors or assumptions	Baseline and environmental studies for mining are well advanced and have not highlighted any environmental issues likely to be detrimental to the prospects for extraction of this mineral resource. Arafura has discovered and pump tested a substantial aquifer to the south of Nolans Bore. Arafura believes this ground water resource has the potential to supply to required water volumes for the life of the planned operation. Arafura is conducting environmental studies on the impact of abstracting water from this Cainozoic basin and has recently applied for a Water Extraction Licence (ASX: ARU 22/10/14).
Bulk density	A minimum of one or two representative drill core samples were typically selected from each core tray in mineralized zones while one sample per two core trays was selected for country rock intervals. Friable and porous samples were • Weighed wet inside cling film with excess air removed to ensure the sample did not fall apart and to account for void space. • About 1% of the density measurements were also determined by calibrated downhole geophysical probes and values are based on one metre-averaged 5cm LAS data extracted from Arafura's database. AMC excluded 191 probe values that corresponded to the top and bottom of each hole as well as a number of unrealistic densities values less than 1 t/m3. A total of 8,809 geophysically determined density records were used in the model determinations involved the use of cling film. At total of 7,702 density determinations collected from drill core were used in the model.

Perth Office: Level 3/263 Adelaide Tce, Perth WA 6000 ■ PO Box 5773, St Georges Tce, Perth WA 6831 ■ T: +618 6210 7666 ■ F: +618 9221 7966
Darwin Office: 18 Menmuir St, Winnellie NT 0820 ■ PO Box 37220, Winnellie NT 0821 ■ T: +618 8947 5588 ■ F: +618 8947 5599
■ E: arafura@arultd.com■ W: www.arultd.com

Criteria	Commentary
Bulk density	The overall distribution of density values and probabilities of both datasets are very closely correlated, and except for the apparently erroneous lower density values in the probe dataset, the trend for each set is extremely close. The erroneous probe density values are considered outliers as it is unlikely that there are real measured densities of less than 1 t/m3. Both sets of data were combined to provide the final density database for the model. The combined density data was cut with the mineralised wireframes for each DOMAIN, ZONECODE and OXSTATE division. Density statistics were generated for each sub-domain, for both mineralisation and waste, prior to using their calculated mean density values in the block model. Where a sub-domain did not have any recorded data for density, a density value was assigned based on the average densities of the other sub-domains with the same OXSTATE value (1.85 t/m^3 for Oxide, 2.48 for transitional and 2.85 for fresh).
Classification	Classification for Nolans Bore is based on the continuity of geology, mineralisation and grade, using drill hole and density data spacing and quality, variography and estimation statistics (primarily number of samples used and estimation pass). The modelled deposit at Nolans Bore is systematically drilled on a nominal 40 m x 40 m drill hole spacing with localised drilling at nominal 20 m x 20 m spacing in the central north zone. In general, the estimates have been classified as Measured Resource in the central north zone where closest spaced drilling occurs and the confidence in the estimate is high. The outer peripheries and deepest parts of the modelled deposit are generally classified as Inferred Resource where there is lower confidence in the estimate. This lower confidence corresponds to systematic 40 m x 40 m drill hole spacing at surface and at depth some parts are 40 m x 80 m. The addition of east-west drilling in the central zone and targeted geotechnical drill holes has provided extra information in different drilling directions which has allowed some parts to be classified as Indicated Resources corresponding to moderate levels of confidence in the estimate. Some outlying mineralisation is poorly supported by sampling and has not been classified as Mineral Resource. AMC believes that the classification appropriately reflects its confidence in and the quality of the grade estimates.
Audits and reviews	The Mineral Resource has not been audited. The geological model was reviewed spatially by Arafura in 2014. This review indicated that minor modifications could be made to the shape of the modelled objects however these are not considered material based on the overall size of the deposit and the fact that these minor amendments would have an insignificant impact on the overall volume. The 2012 model was an agreed compromise between AMC's wireframed model and slightly as some mineralisation boundaries are not snapped to all drill holes in the more complex areas. Arafura's review found that interpreted Arafura's geological model. Most of the issues relate to the complexity of the deposit's shape and a number of modelled objects could be adjusted mineralised boundaries in one costean were overlooked during the digitizing process in the western part of the central north zone and that the mineralisation was not projected to surface at this location. In effect, this omission slightly underestimates the volume of near surface mineralisation in the North Zone. The volume omitted is small and is not considered material in the overall scheme of the deposit.

Perth Office: Level 3/263 Adelaide Tce, Perth WA 6000 ■ PO Box 5773, St Georges Tce, Perth WA 6831 ■ T: +618 6210 7666 ■ F: +618 9221 7966
Darwin Office: 18 Menmuir St, Winnellie NT 0820 ■ PO Box 37220, Winnellie NT 0821 ■ T: +618 8947 5588 ■ F: +618 8947 5599
■ E: arafura@arultd.com■ W: www.arultd.com

Criteria	Commentary
Audits and reviews	Some additional density data is available for Nolans Bore as comprehensive LAS data, however the LAS data for all pre-2011 downhole surveys have not been loaded into Arafura's database. The amount of data is not significant as downhole probe density data was only collected in a selection of these holes. This missing data will included as part of the next Mineral Resource estimate, however it is expected to have no material impact given the widespread nature and quantity of density data currently available and used for the Nolans Bore estimate.
Discussion of relative accuracy/confidence	The Mineral Resource classification applied to Nolans Bore implies a confidence level and level of accuracy in the estimates. These levels of confidence and accuracy relate to the global estimates of grades and tonnes for the deposit. No production data is available as mining has not commenced at the date of this report.

Perth Office: Level 3/263 Adelaide Tce, Perth WA 6000 ■ PO Box 5773, St Georges Tce, Perth WA 6831 ■ T: +618 6210 7666 ■ F: +618 9221 7966
Darwin Office: 18 Menmuir St, Winnellie NT 0820 ■ PO Box 37220, Winnellie NT 0821 ■ T: +618 8947 5588 ■ F: +618 8947 5599
■ E: arafura@arultd.com ■ W: www.arultd.com

COMPETENT PERSONS' STATEMENT

The information in this report that relates to Exploration Results is based on information compiled by Mr Kelvin Hussey, a Competent Person who is a Member of the Australian Institute of Geoscientists. Mr Hussey is a full time employee of Arafura Resources Limited. Mr Hussey has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken 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. Mr Hussey 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 that relates to Mineral Resources is based on information compiled by Mr John Tyrrell, a Competent Person who is a Member of Australasian Institute of Mining and Metallurgy. Mr Tyrrell is a full time employee of AMC Consultants Pty Ltd. Mr Tyrrell has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken 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. Mr Tyrrell consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

REFERENCES

AMC Consultants Pty Ltd, 2012. Nolans Bore Resource Estimate. AMC Project 211091.

Hussey KJ, 2012. Exploration due diligence and QA/QC report to support the 2012 Mineral Resources estimate prepared by AMC for the Nolans Bore REE-P-U deposit. Arafura Report ARU-12/010.