Peak RARE EARTHS

ASX Announcement 4 March 2024

Ngualla's highest grade Niobium intercept to date

- **Critical minerals exploration programme continues to target the multi-commodity potential of the Ngualla carbonatite system**
- **Assays successfully completed for a further 22 RC holes from the Northern Zone**
- **Numerous high-grade niobium intercepts including:**
  - NRC368: **26m at 0.81% Nb_2O_5** from surface including **14m at 1.09% Nb_2O_5** from 14m
  - NRC372: **62m at 1.26% Nb_2O_5** from surface including **36m at 1.88% Nb_2O_5** from 22m; the highest-grade niobium intercept at Ngualla to date
- **Further widespread and high-grade phosphate mineralisation, supporting the recently identified opportunity to supply phosphate into local fertiliser sector:**
  - NRC367: **60m at 20.5% P_2O_5** from 10m
  - NRC368: **32m at 22.0% P_2O_5** from surface, **10m at 19.5% P_2O_5** from 38m and **8m at 22.3% P_2O_5** from 64m
  - NRC375: **10m at 23.0% P_2O_5** from surface and **11m at 18.8% P_2O_5** from 46m
- **Extension of existing rare earths mineralisation, which is enhanced by elevated levels of heavy rare earth elements - dysprosium and terbium**
- **Further assay results from the Northern and Breccia zones are expected by the end of March**

Peak Rare Earths Limited (ASX: **PEK**) (**"Peak"** or the **"Company"**) is pleased to announce the next set of assay results from its critical minerals exploration programme, which is targeting the multi-commodity potential of the Ngualla carbonatite system.

Assays have been finalised for 31 RC holes across the Northern Zone, which follows the completion of drilling activities at the end of last year. The results indicate extensive high-grade and shallow mineralisation of niobium, phosphate and rare earths.

Further assay results from several key targets within the Northern Zone and Breccia Zone are expected by the end of March.

Commenting on the assay results, the CEO of Peak, Bardin Davis, said:

"We are extremely excited by the niobium intersections, which support the potential of a very high-grade niobium mineralisation area within the Northern Zone. The extension of shallow and widespread phosphate mineralisation within the Northern Zone is also very pleasing and supports the recently identified opportunity to supply phosphate into the local fertiliser market. We are eagerly awaiting the assay results from the remaining drill holes across the Northern Zone and Breccia Zone."

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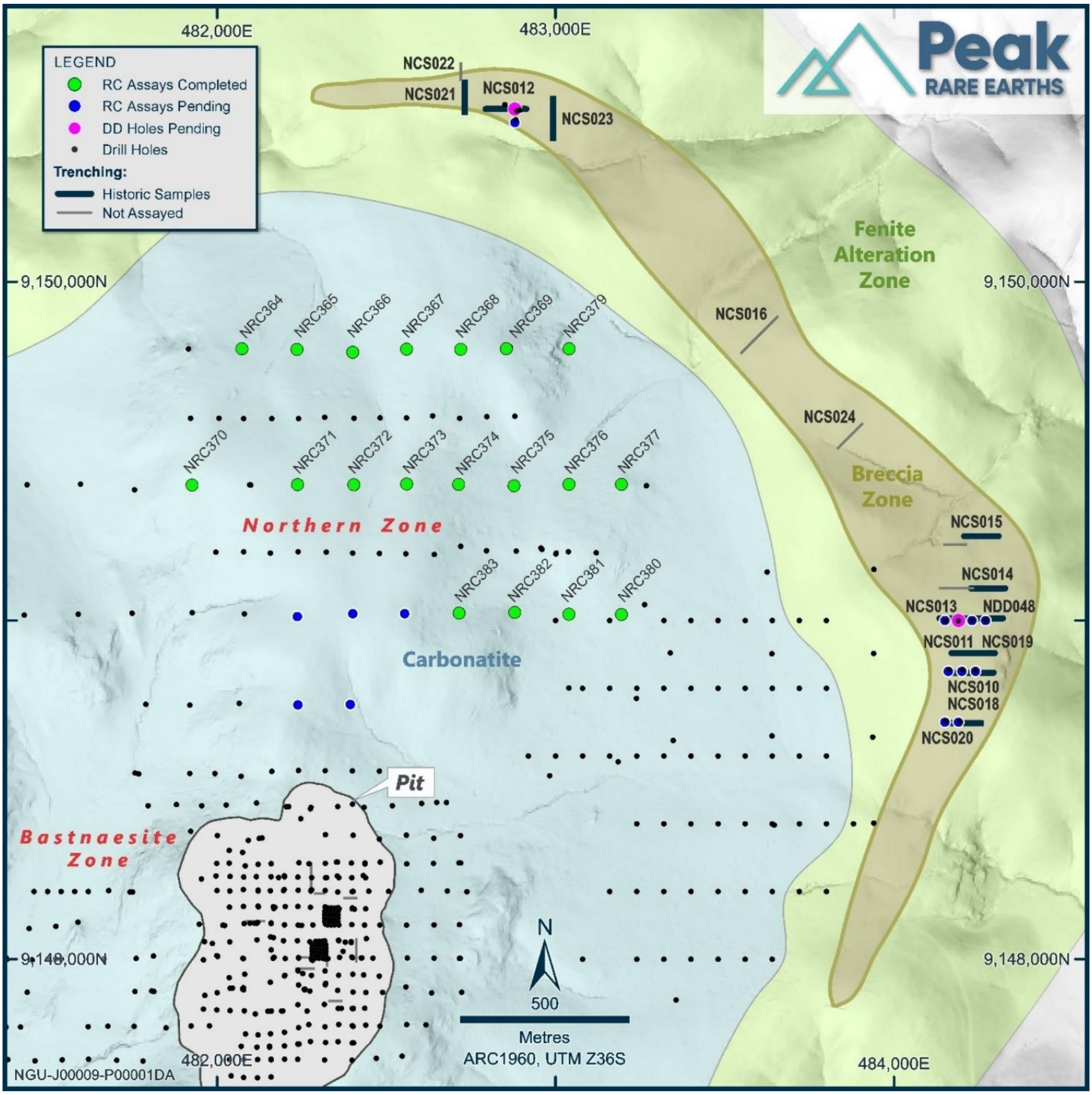
Results overview

Peak has assayed a further 22 RC holes in the Northern Zone within this latest batch of results which covers drill holes NRC364 to NRC383 (Figure 1). Drill hole locations within this batch cover an approximate area of 1,000m by 750m within the Northern Zone with holes NRC364 to 379 extending the previous extent of drilling in the northern direction. Assay results for a further six RC holes from the Northern Zone are expected by the end of March 2024.

Figure 1. Plan view showing completed and pending drill holes



Geological results and interpretation

The Northern Zone drilling program was designed to test the extent of niobium and phosphate mineralisation in the Northern Zone and to assess the continuity of mineralisation between the two existing Northern Zone drill lines and the Southern Bastnaesite Rare Earth Zone. Mineralisation within the Northern Zone is currently open in the northern and eastern directions.

Assay results from a further 22 holes from the Northern Zone drilling program returned wide, high-grade intersections of niobium and phosphate (Table 1). Based on the assays received, niobium, phosphate and rare earth mineralisation are broadly coincident in the Northern Zone, occurring in transported iron-rich sediments and a residual apatite-magnetite unit that infill the irregular karstic surface of the carbonatite (Figure 3). Mineralisation has been extended in both the northern and eastern directions based on the results received and remains open in these directions (Figure 2).

The infill drill line on 9,149,400mN returned wide-spread niobium and phosphate intersections within transported colluvium and weathered carbonatite. These demonstrate the continuity and consistency of high-grade niobium and phosphate mineralisation over significant widths and distances (Figure 3a). Highlights from this drill line include:

Hole ID	Intersection
NRC372	**62m at 1.26% Nb_2O_5 from surface, *including*:**
	36m at 1.88% Nb_2O_5 from 22m
NRC373	88m at 0.49% Nb_2O_5 from surface to end of hole
NRC376A	61m at 0.49% Nb_2O_5 from surface to end of hole, *including*:
	14m at 0.79% Nb_2O_5 from 44m
NRC371	40m at 17.7% P_2O_5 from 16m
NRC374	38m at 19.0% P_2O_5 from surface
NRC375	10m at 23.0% P_2O_5 from surface and
	11m at 18.8% P_2O_5 from 46m

See Table 1 for full report of all intersections.

The mineralisation remains open to the north. A deep weathering trough on drill line 9,149,800mN (Figure 3b), which currently has no drilling to the north of it, has returned coincident high grades of both phosphate and niobium. Highlights from this drill line include:

Hole ID	Intersection
NRC366	37m at 0.48% Nb_2O_5 from 16m
NRC367	55m at 0.45% Nb_2O_5 from 16m
NRC368	**26m at 0.81% Nb2O5 from surface, *including*:**
	14m at 1.09% Nb2O5 from 12m

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NRC367	60m at 20.5% P_2O_5 from 10m
NRC368	32m at 22.0% P_2O_5 from surface and
	10m at 19.5% P_2O_5 from 38m and
	8m at 22.3% P_2O_5 from 64m

See Table 1 for full report of all intersections.

Evaluation of the Northern Zone rare earth mineralisation demonstrates a higher proportion of magnet rare earths (dysprosium, terbium, neodymium and praseodymium) relative to total rare earth oxides than the Bastnaesite Zone (Table 2). On current spot prices, the basket value of the Northern Zone rare earth assemblage is 39% higher than the Bastnaesite Zone. Notably, the Northern Zone is highly enriched in heavy rare earths dysprosium and terbium.

Table 1. Northern Zone intersections

Hole ID	East	North	Hole Depth (m)	From (m)	To (m)	Interval (m)	Intercept (%)
Niobium (Nb_2O_5)							
NRC365	482,237	9,149,800	80	0*	8	8	0.58
			incl.	*0**	*4*	*4*	*0.63*
			and	*6*	*8*	*2*	*0.59*
NRC366	482,401	9,149,792	57	0*	10	10	0.57
			incl.	*0**	*8*	*8*	*0.63*
				16	53*	37	0.48
			incl.	*34*	*38*	*4*	*0.56*
			and	*42*	*53**	*11*	*0.61*
NRC367	482,560	9,149,801	71	0*	12	12	0.70
				16	71*	55	0.45
			incl.	*56*	*70*	*14*	*0.54*
NRC368	482,720	9,149,801	80	0*	26	26	0.81
			incl.	*0**	*6*	*6*	*0.68*
			and	*12*	*26*	*14*	*1.09*
				38	48	10	0.36
NRC370	481,927	9,149,400	47	0*	10	10	0.43
			incl.	*4*	*6*	*2*	*0.62*
NRC371	482,238	9,149,401	80	16	50	34	0.50
			incl.	*20*	*26*	*6*	*0.72*
			and	*30*	*38*	*8*	*0.88*
NRC372	482,404	9,149,401	80	0*	62	62	1.26
			incl.	*8*	*10*	*2*	*0.60*
			and	*12*	*16*	*4*	*0.73*
			and	*22*	*58*	*36*	*1.88*

Hole ID	East	North	Hole Depth (m)	From (m)	To (m)	Interval (m)	Intercept (%)
NRC373	482,560	9,149,403	88	0*	88*	88	0.49
			incl.	*20*	*24*	*4*	*0.55*
			and	*26*	*30*	*4*	*0.54*
			and	*32*	*40*	*8*	*0.57*
			and	*48*	*52*	*4*	*0.86*
			and	*62*	*68*	*6*	*1.41*
NRC374	482,714	9,149,402	76	14	22	8	0.41
			incl.	*16*	*18*	*2*	*0.80*
				60	76*	16	0.27
NRC375	482,877	9,149,398	66	0*	10	5	0.35
				46	57	11	0.42
NRC376	483,040	9,149,402	33	0*	33*	33	0.44
			incl.	*0*	*6*	*6*	*0.62*
NRC376A	483,032	9,149,403	61	0*	61*	61	0.49
			incl.	*0*	*4*	*4*	*0.72*
			and	*44*	*58*	*14*	*0.79*
NRC380	483,195	9,149,018	80	0*	4	4	0.52
NRC381	483,039	9,149,019	*80*	*0**	*36*	*36*	*0.79*
			incl.	*0**	*34*	*34*	*0.81*
				42	52	10	0.29
NRC382	482,879	9,149,024	80	64	80*	16	0.33
Phosphate (P_2O_5)							
NRC365	482,237	9,149,800	80	0*	8	8	11.2
NRC366	482,401	9,149,792	57	0*	8	8	11.3
				24	53*	29	16.4
NRC367	482,560	9,149,801	71	10	70	60	20.5
NRC368	482,720	9,149,801	80	0*	32	32	22.0
				38	48	10	19.5
				64	72	8	22.3
NRC369	482,855	9,149,802	80	0*	10	10	16.9
				18	28	10	9.6
NRC370	481,927	9,149,400	47	22	42	20	14.7
NRC371	482,238	9,149,401	80	16	56	40	17.7
NRC373	482,560	9,149,403	88	74	88	14	14.7
NRC374	482,714	9,149,402	76	0*	38	38	19.0
				62	76*	14	14.7
NRC375	482,877	9,149,398	66	0	10	10	23.0
				46	57	11	18.8

Hole ID	East	North	Hole Depth (m)	From (m)	To (m)	Interval (m)	Intercept (%)
NRC381	483,039	9,149,019	80	0*	44	44	21.0
NRC382	482,879	9,149,024	80	64	80*	16	17.4
Rare Earths (TREO)							
NRC365	482,237	9,149,800	80	0*	8	8	1.54
NRC366	482,401	9,149,792	57	0*	8	8	1.60
				34	44	10	1.15
NRC367	482,560	9,149,801	71	0*	28	28	1.19
				46	70	24	1.48
			incl.	*54*	*60*	*6*	*2.05*
NRC368	482,720	9,149,801	80	4	26	22	1.14
				36	44	8	1.23
NRC370	481,927	9,149,400	47	0*	8	8	1.26
NRC372	482,404	9,149,401	80	0*	8	8	1.07
				24	32	8	1.17
				48	58	10	1.76
			incl.	*50*	*52*	*2*	*3.19*
NRC373	482,560	9,149,403	88	0*	42	42	1.22
				58	76	18	1.33
NRC374	482,714	9,149,402	76	4	14	10	1.91
				42	*44*	*2*	*2.63*
NRC376	483,040	9,149,402	33	0*	33*	33	1.13
NRC376A	483,032	9,149,403	61	10	30	20	1.10
				42	58	16	1.19
NRC377	483,195	9,149,402	80	24	26	2	1.09
NRC381	483,039	9,149,019	80	20	40	20	1.07
NRC383	482,715	9,149,022	80	*70*	*74*	*4*	*2.93*

Note: Coordinate system in Arc 1960 UTM zone 36S. * = hole started and/or ended in mineralisation. Samples are 2m composites from angled -60 west RC drilling.
Niobium: Intersections with a minimum width of 8m at >0.25% niobium oxide are reported. Intersections calculated using a 0.25% Nb_2O_5 lower cut and a maximum of 2m internal dilution. Selected intersections >0.5% Nb_2O_5 in italics.
Phosphate: Intersections with a minimum width of 8m at >10% phosphate are reported. Intersections calculated using a 10% P_2O_5 lower cut and a maximum of 2m internal dilution.
REO: Intersections with a minimum width of 8m at >1% REO are reported. Intersections calculated using a 1% REO lower cut and a maximum of 2m internal dilution. Selected intersections >2% REO in italics. REO = Total Rare Earth Oxides including yttrium. See Table 2 for relative distribution of individual rare earth oxide.

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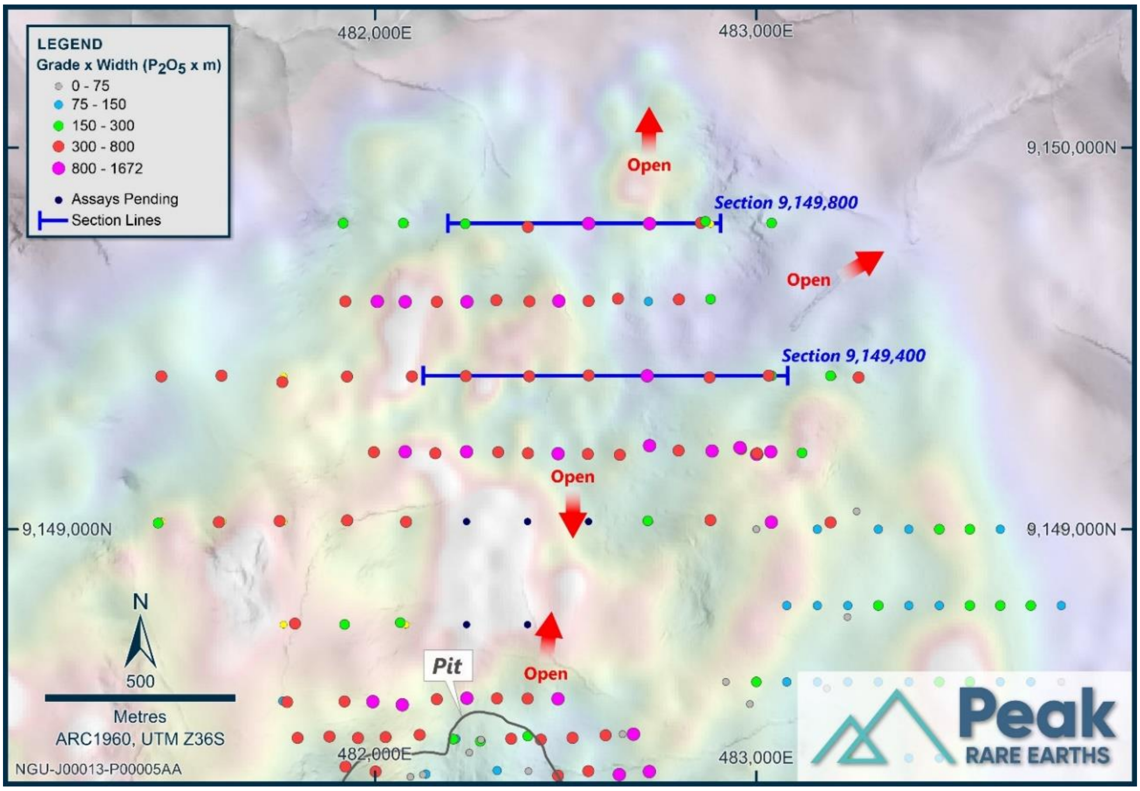
Figure 2. Current extent of mineralisation (phosphate and niobium)



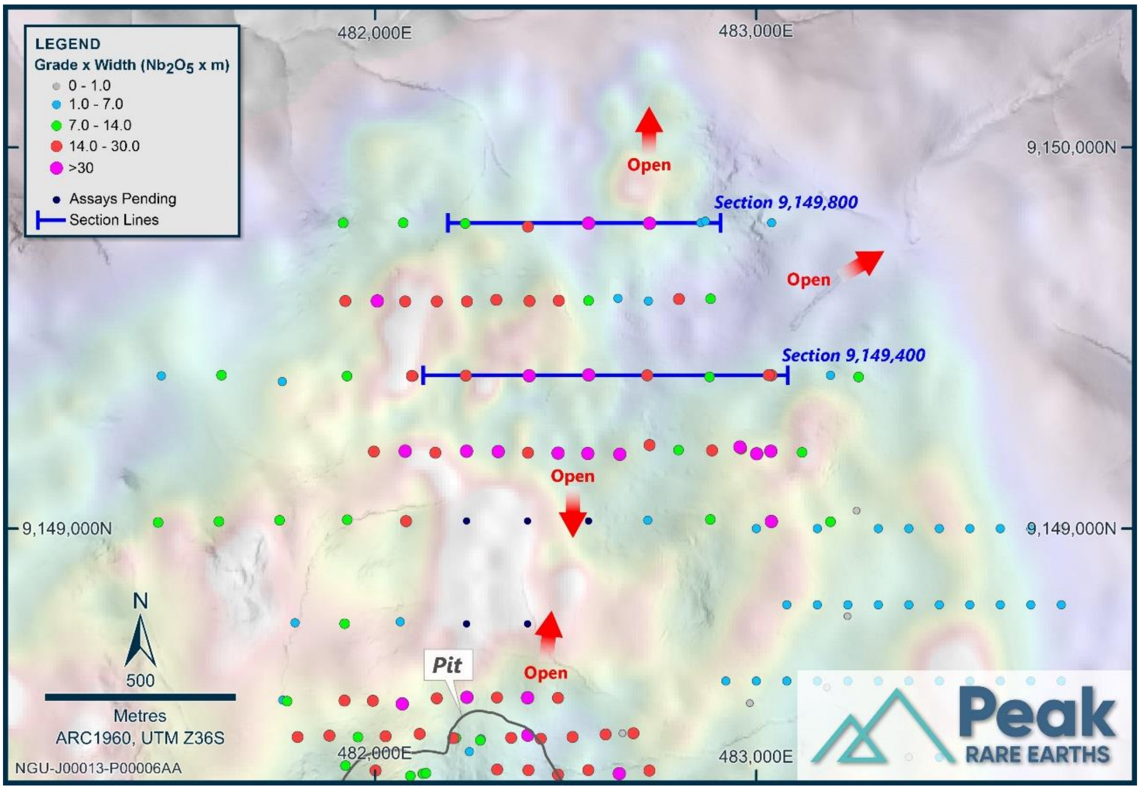


Figure 3(a). Cross section – drill line 9,148,400mN showing mineralised niobium and phosphate intersections highlights within colluvium and weathered carbonatite

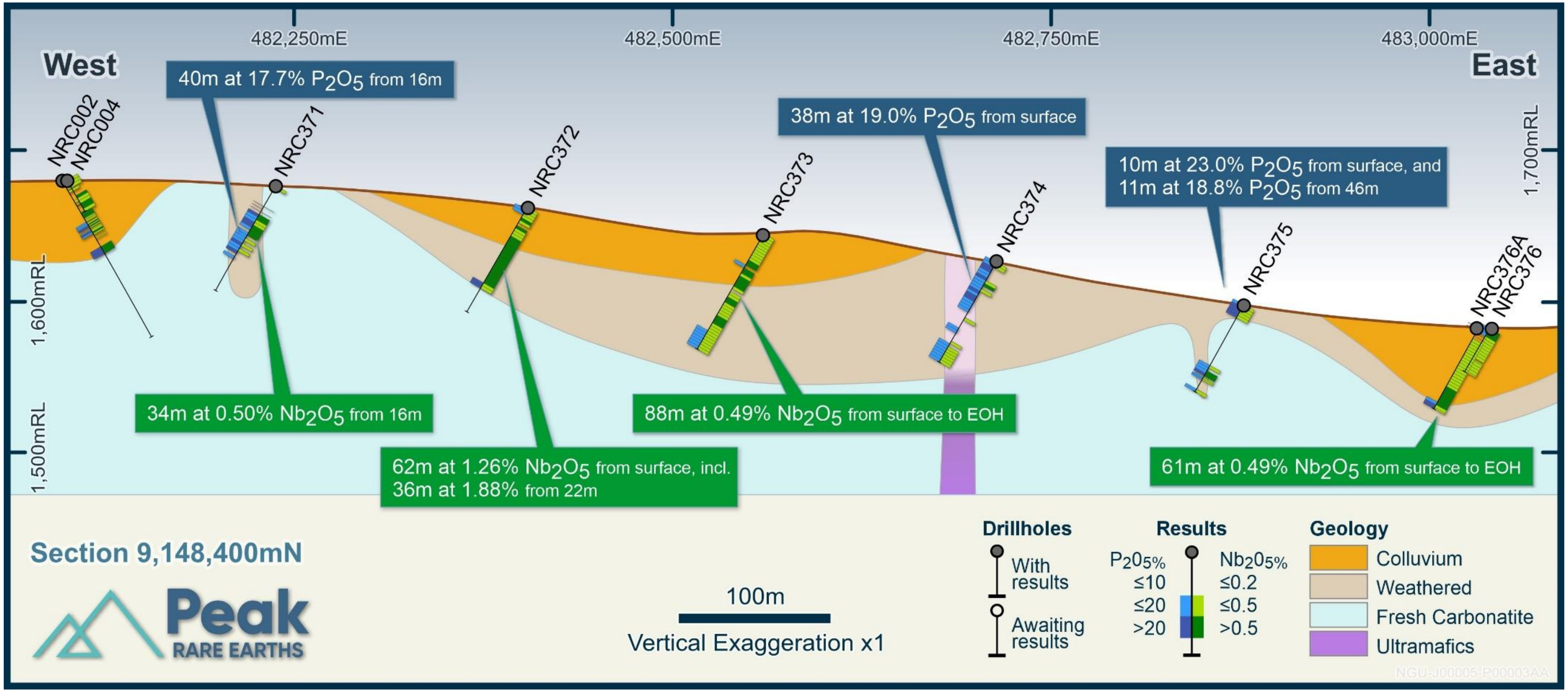


Figure 3(b). Cross section – drill line 9,149,800mN showing mineralised niobium and phosphate intersections highlights within colluvium and weathered carbonatite

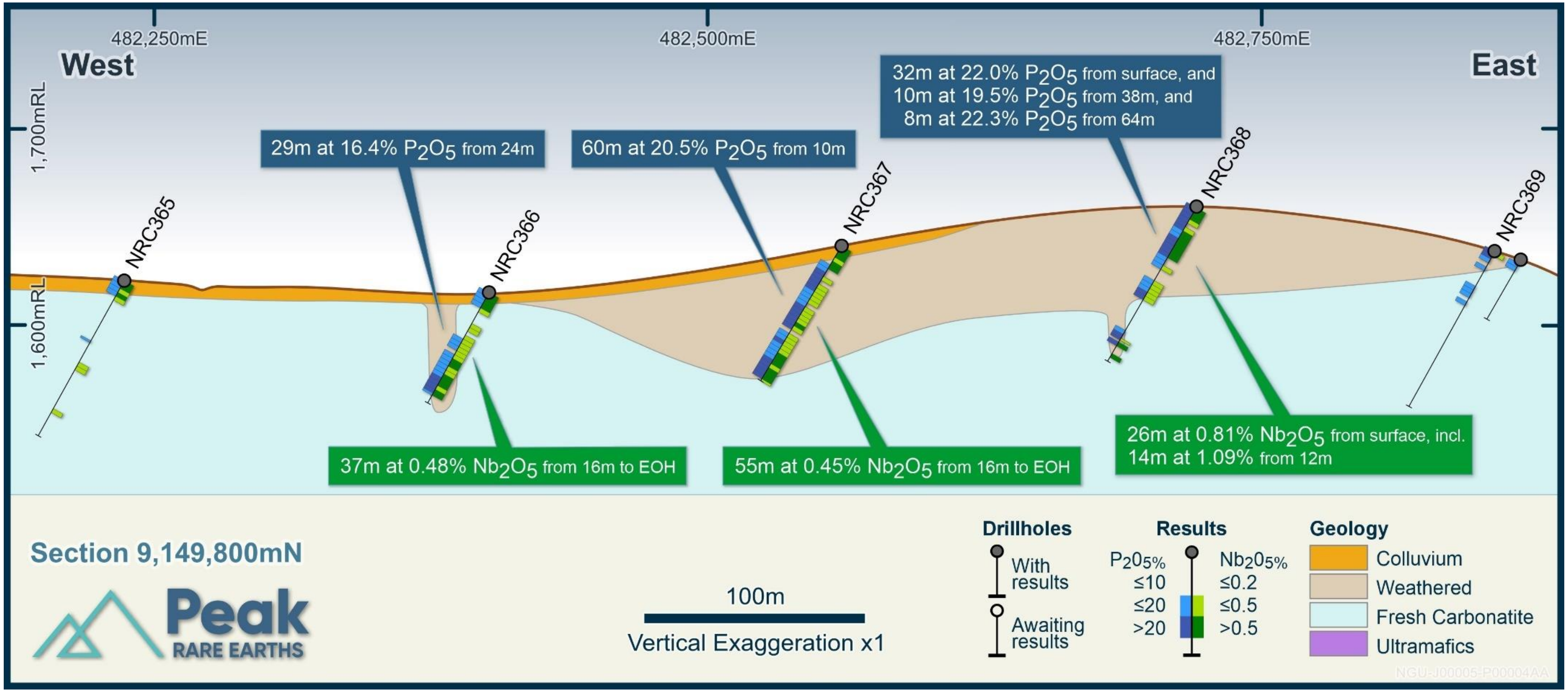
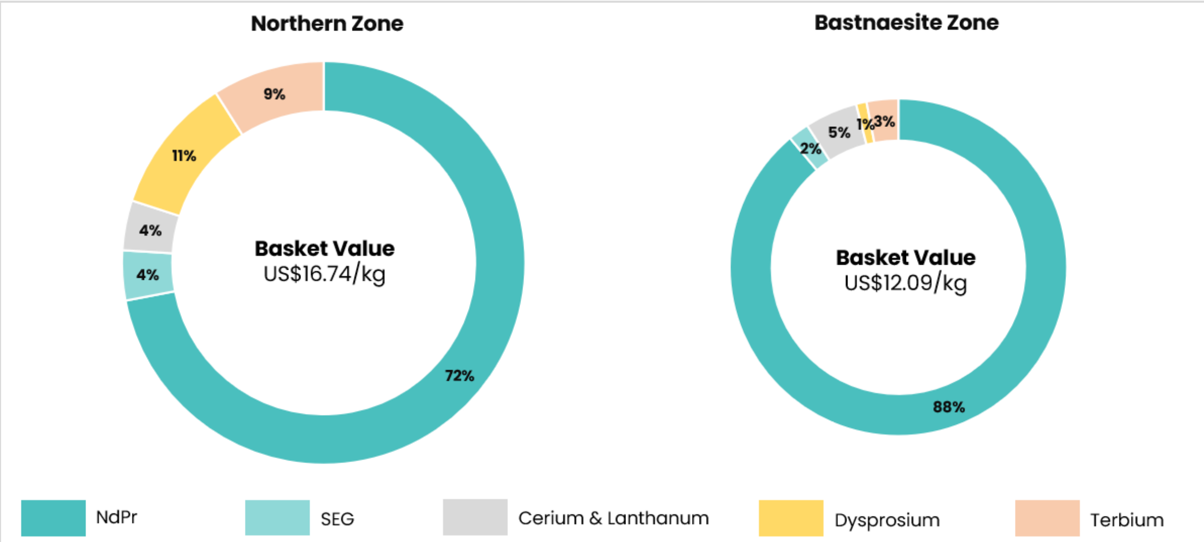


Figure 4. Basket value of rare earth assemblage within Northern Zone



Based on spot prices as at 15 December 2023 (Asian Market) – Neodymium US$64/kg, Praseodymium US$64.0/kg, Lanthanum – US$0.6/kg, Cerium – US$0.9/kg, Samarium – US$2.0/kg, Europium – US$25.6/kg, Gadolinium – US$29.1/kg, Terbium – US$1,139.7/kg and Dysprosium – US$384.1/kg

Table 2. Individual rare earth oxide grades and percentage of total REO in the Northern Zone above 1% REO and the Weathered Bastnaesite Zone Mineral Resource

		Northern Zone*		Mineral Resource**	
Rare Earth Oxides		REO Grade %	% of Total REO	REO Grade %	% of Total REO
Lanthanum	La_2O_3	0.30	21.4	1.310	27.6
Cerium	CeO_2	0.62	44.4	2.293	48.3
Praseodymium	Pr_6O_{11}	**0.07**	**5.18**	**0.227**	**4.77**
Neodymium	Nd_2O_3	**0.27**	**19.2**	**0.784**	**16.5**
Samarium	Sm_2O_3	0.04	3.00	0.076	1.60
Europium	Eu_2O_3	0.01	0.78	0.014	0.29
Gadolinium	Gd_2O_3	0.03	1.88	0.029	0.61
Terbium	Tb_4O_7	**0.003**	**0.20**	**0.002**	**0.05**
Dysprosium	Dy_2O_3	**0.011**	**0.78**	**0.004**	**0.07**
Holmium	Ho_2O_3	0.002	0.11	0.000	0.01
Erbium	Er_2O_3	0.003	0.23	0.002	0.03
Thulium	Tm_2O_3	0.000	0.02	0.000	0.00
Ytterbium	Yb_2O_3	0.002	0.12	0.001	0.01
Lutetium	Lu_2O_3	0.000	0.01	0.000	0.00
Yttrium	Y_2O_3	0.037	2.67	0.010	0.20
Total REO* **		**1.40**	**100.0**	**4.75**	**100.00**

Recent and previous Northern Zone drilling. ** Ngualla 2016 weathered Bastnaesite Zone Mineral Resource >= 1% REO. Refer to the ASX announcement 24 October 2022 for Mineral Resource estimates. The Company confirms that at this time it is not aware of any new information or data that materially affects the information included in the announcement. The Company further confirms that the form and context in which the Competent Person's findings as presented have not been materially modified from the market announcement.

Strategic importance of niobium and heavy rare earths

Both niobium and heavy rare earth elements are highly strategic critical minerals.

Niobium is an alloy metal with a growing range of uses within high tech and green energy applications including the recent emergence of niobium-titanium oxide EV anode cells. Niobium is currently listed as a critical mineral by Australia, India, Japan, China and the EU and is ranked second out of 50 within the USA's critical mineral list.

The heavy rare earth elements, dysprosium and terbium, deliver enhanced operating performance to high-strength permanent magnets by enabling them to operate at higher temperatures. Key applications include electric vehicles, direct-drive wind turbines, high-tech weapons and use in a broad range of electronics including smartphones, data storage devices and hard drives. The production of heavy rare earths (i.e. terbium and dysprosium) is much more concentrated than light rare earths (i.e. neodymium and praseodymium) with over 90% of global production from China and Myanmar[1].

Radionuclides and deleterious elements

Drill samples have been analysed for deleterious element levels, with assays completed to date demonstrating that mineralisation of niobium, phosphate and rare earths within the Northern Zone are associated with low levels of radionuclides (thorium and uranium) and heavy metals (cadmium and lead). Many phosphate and niobium projects globally are constrained by high levels of these elements, particularly when producing intermediate products and concentrates that require shipping or that are used in direct agricultural applications.

Table 3. Radionuclides and deleterious elements (Northern Zone)

Element	Basis	Value (ppm)
Thorium	Th	108
Uranium	U	101
Cadmium	Cd	9
Lead	Pb	593

Note: Calculated from recent and previous Northern Zone drilling intervals above 0.25% Nb_2O_5

Status and next steps

All drilling related to this current exploration campaign has now been completed. Assay results from the final batch of drilling from the Northern Zone (NRC384 – NRC388) are expected by the end of March 2024. It is also anticipated that assays from drilling within the Breccia Zone, which includes 12 RC holes (NRC389 – NRC410) and two diamond drill holes (NDD048 – ND0049), will also be finalised within this period.

[1]'Rare Earth Market Outlook to 2040 (Q2, 2023)', Adamas Intelligence

Table 4. Drilling and assay status

Sample	Comment
Northern Zone (niobium, phosphate and rare earths)	
RC holes NRC350 – NRC363	Assays completed
RC holes NRC364 – NRC383	Assays completed
RC holes NRC384 – NRC388	*Assays pending*
Breccia Zone (fluorite and rare earths)	
Trench samples	Assays completed
RC holes NRC389 – NRC410	*Assays pending*
DD holes NDD048 – NDD049	*Assays pending*

This announcement is authorised for release by the Company's Executive Chairman and Chief Executive Officer.

Bardin Davis

Chief Executive Officer

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Competent Persons Statement

Information in this Announcement that relates to exploration results is based upon work undertaken by Maggie Hughes, a Competent Person who is a Member of the Australian Institute of Geoscientists (AIG). Maggie Hughes has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity which she is undertaking to qualify as a 'Competent Person' as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'(JORC Code). Maggie consents to the inclusion in this announcement of the matters based on her information in the form and context in which it appears.

Forward Looking Statements

Certain statements contained in this announcement may constitute forward-looking statements, estimates and projections which by their nature involve substantial risks and uncertainties because they relate to events and depend on circumstances that may or may not occur in the future. When used in this announcement, the words "anticipate", "expect", "estimate", "forecast", "will", "planned", and similar expressions are intended to identify forward-looking statements or information. Such statements include without limitation: statements regarding timing and amounts of capital expenditures and other assumptions; estimates of future reserves, resources, mineral production, optimisation efforts and sales; estimates of mine life; estimates of future internal rates of return, mining costs, cash costs, mine site costs and other expenses; estimates of future capital expenditures and other cash needs, and expectations as to the funding thereof; statements and information as to the projected development of certain ore deposits, including estimates of exploration, development and production and other capital costs, and estimates of the timing of such exploration, development and production or decisions with respect to such exploration, development and production; estimates of reserves and resources, and statements and information regarding anticipated future exploration; the anticipated timing of events with respect to the Company's projects and statements; strategies and the industry in which the Company operates and information regarding the sufficiency of the Company's cash resources. Such statements and information reflect the Company's views, intentions or current expectations and are subject to certain risks, uncertainties and assumptions, and undue reliance should not be placed on such statements and information. Many factors, known and unknown could cause the actual results, outcomes and developments to be materially different, and to differ adversely, from those expressed or implied by such forward looking statements and information and past performance is no guarantee of future performance. Such risks and factors include, but are not limited to: the volatility of prices of rare earth elements and other commodities; uncertainty of mineral reserves, mineral resources, mineral grades and mineral recovery estimates; uncertainty of future production, capital expenditures, and other costs; currency fluctuations; financing of additional capital requirements; cost of exploration and development programs; mining risks; community protests; risks associated with foreign operations; governmental and environmental regulation; the volatility of the Company's stock price; and risks associated with the Company's by-product metal derivative strategies. There can be no assurance that forward looking statements will prove to be correct.

Appendix 1: Drill hole locations

Site ID	East	North	RL	Dip	Aziumuth	Total Depth (m)
NRC364	482,074	9,149,802	1,625	-60	275	80
NRC365	482,237	9,149,800	1,620	-61	271	80
NRC366	482,401	9,149,792	1,615	-61	270	57
NRC367	482,560	9,149,801	1,636	-59	272	71
NRC368	482,720	9,149,801	1,653	-60	272	80
NRC369	482,855	9,149,802	1,633	-61	269	80
NRC369A	482,866	9,149,807	1,629	-60	270	31
NRC370	481,927	9,149,400	1,661	-59	272	47
NRC371	482,238	9,149,401	1,676	-60	266	80
NRC372	482,404	9,149,401	1,662	-60	270	80
NRC373	482,560	9,149,403	1,644	-60	267	88
NRC374	482,714	9,149,402	1,626	-61	272	76
NRC375	482,877	9,149,398	1,598	-61	271	66
NRC376	483,040	9,149,402	1,582	-60	270	33
NRC377	483,195	9,149,402	1,585	-62	268	80
NRC376A	483,032	9,149,403	1,582	-61	270	61
NRC378	483,268	9,149,398	1,582	-61	269	74
NRC379	483,040	9,149,802	1,585	-61	268	80
NRC380	483,195	9,149,018	1,584	-61	272	80
NRC381	483,039	9,149,019	1,589	-60	267	80
NRC382	482,879	9,149,024	1,606	-60	273	80
NRC383	482,715	9,149,022	1,635	-60	278	80

Appendix 2: Section 1 Sampling Techniques and Data (JORC Code 2012 Edition)

(Criteria in this section apply to all succeeding sections.)

Criteria	Explanation	Commentary
Sampling techniques	Nature and quality of sampling (e.g. cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc.). These examples should not be taken as limiting the broad meaning of sampling. Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used. Aspects of the determination of mineralisation that are Material to the Public Report. In cases where 'industry standard' work has been done this would be relatively simple (e.g. 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (e.g. submarine nodules) may warrant disclosure of detailed information.	The RC samples were collected over 1 m intervals. A 3-tier riffle splitter was used to split and combine adjacent samples to form a 2 m composite, with a 2 kg split submitted for laboratory testing. Diamond core samples were collected over a nominal interval length of 2 m within lithological units and core run blocks. Quarter core samples were submitted for geochemical testing. The total lengths of all drill holes were sampled and submitted for assaying. Sample preparation and assaying procedures are described below.
Drilling techniques	Drill type (e.g. core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc.) and details (e.g. core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc.).	The RC samples were collected using track mounted rigs equipped with 5.5" face sampling button bits and 6 m rods. The diamond core samples were collected using PQ3 coring equipment in the weathered friable material at surface (up to 6m) and HQ3 equipment in fresh material. A rod length of 6 m was used. Because of the weathered nature of the host rock and the

		disseminated nature of the mineralisation, it was not considered possible or necessary to orient the core.
Drill sample recovery	Method of recording and assessing core and chip sample recoveries and results assessed. Measures taken to maximise sample recovery and ensure representative nature of the samples. Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/ coarse material.	For the RC program, a face sampling bit was used to improve recovery and reduce contamination. Each sample was weighed, with the weight compared to the theoretical weight estimated from the hole diameter and expected density. The drill rods were air flushed after each sample to minimise contamination. The RC sample moisture content was qualitatively logged and recorded. Diamond core samples were collected using triple-tube coring equipment. The drilling was performed in short runs and at slow rates to maximise core recovery. The runs were marked and checked against the drillers' core blocks to ensure any core loss was recorded. A number of studies have been conducted at Ngualla to assess whether there is any relationship between recovery and grade, with no significant correlation identified. Material from the drill return and cyclone overflow have been periodically collected and assayed, and good correlation with the primary sample grades was observed. A number of DDH and RC twinned holes have been drilled at Ngualla. Close lithological and grade correlation was observed between the twinned datasets, with no evidence of significant differences that may indicate issues with one or both of the sampling methods.
Logging	Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.	All DDH and RC intervals were geologically logged, with information pertaining to lithology, mineralogy, weathering, and magnetic susceptibility collected and recorded.

	Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc.) photography. The total length and percentage of the relevant intersections logged.	RC sample weights were recorded. DDH recovery relative to drill length was recorded. RQD was measured and recorded for DDH intervals. Because the DDH cores were not oriented, structural orientation data were not recorded. The logging datasets comprised a mix of qualitative (lithology, weathering, mineralogy) and quantitative (RQD, magnetic susceptibility, recovery) information. The remaining three-quarter core pieces were returned to the core trays and stored for reference or subsequent testing. A small amount of material from each 1 m RC sample was collected and stored in chip trays. All core samples and chip trays were photographed. Logging was performed on the full length of each hole, with the level of detail considered appropriate to support mineral resource estimation studies.
Sub-sampling techniques and sample preparation	If core, whether cut or sawn and whether quarter, half or all core taken. If non-core, whether riffled, tube sampled, rotary split, etc. and whether sampled wet or dry. For all sample types, the nature, quality and appropriateness of the sample preparation technique. Quality control procedures adopted for all sub- sampling stages to maximise representivity of samples. Measures taken to ensure that the sampling is representative of the in-situ material collected, including for instance results for field duplicate/ second-half sampling. Whether sample sizes are appropriate to the	RC chip samples were collected from each 1 m interval using a standalone 3-tier riffle splitter configured to give a 1/8 split. A scoop was used to collect an equal-sized portion from adjacent samples, which were combined to produce 2 m composites. Replicate samples were collected to confirm that scooping did not introduce significant bias or precision issues. Core samples were terminated at lithological contacts and at the end of each core run (which were marked by core blocks) or at 2 m intervals within lithological units. The cores were longitudinally split using a core saw for fresh material and a knife for weathered material, with quarter-core samples submitted for assaying. Peak has established a set of quality

	grain size of the material being sampled.	assurance (QA) protocols, which include the collection and insertion of field duplicates and certified reference samples into the sample stream prior to submission to the laboratory. Coarse crushed blanks are inserted by the laboratory prior to sample preparation. The QA samples are inserted at random, but at a frequency that averages 1:30 for each type. Twinned DDH and RC datasets were examined to confirm that the sample collection procedures had not resulted in significant bias or precision issues. The QA data does not indicate that there are any significant issues with the weight/particle size combinations used for sample preparation.
Quality of assay data and Laboratory tests	The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total. For geophysical tools, spectrometers, handheld XRF instruments, etc., the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc. Nature of quality control procedures adopted (e.g. standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e. lack of bias) and precision have been established.	A 50 g pulp from each sample was submitted to Nagrom, Perth for assaying using XRF analysis and peroxide fusion digest with ICP finish. For XRF analysis, the prepared sample is fused in lithium borate flux with lithium nitrate additive. The resultant glass bead is analysed by XRF. For peroxide fusion digest, the prepared sample is fused with sodium peroxide and digested in dilute hydrochloric acid. The resultant solution is analysed by ICP. The element suite for each method comprised: Fused Bead XRF: Al, Ba, Ca, Cu, Fe, K, Na, Ni, Mg, Mn, P, Pb, S, Si, Ti, Zn, Zr, LOI. Peroxide Fusion Digest with ICP finish: Cd, Ce, Dy, Eu, Er, Gd, Ho, La, Lu, Nb, Nd, Pr, Sc, Sm, Ta, Tb, Th, Tm, U, Y, Yb. No geophysical tools have been used to determine element grades for mineralisation at Ngualla.

		Laboratory performance was monitored using the results from the QA samples inserted by Peak (see above). The Standards consist of Certified Reference Materials prepared by OREAS Australia. Inter-laboratory checking of analytical outcomes is routinely undertaken to ensure continued accuracy and precision by the primary laboratory. All QA data are stored in the Ngualla database and regular studies are undertaken to ensure laboratory performance is within acceptable levels of accuracy. The QA studies confirm that accuracy and precision are within industry accepted limits.
Verification of sampling and assaying	The verification of significant intersections by either independent or alternative company personnel. The use of twinned holes. Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols. Discuss any adjustment to assay data.	Significant intersections were verified by alternative Peak personnel. Peak have twinned 33 RC holes with DDH at Ngualla. Comparisons between the two datasets indicate the pairs generally show very good lithological and grade correlation. Primary data were handwritten onto pro-forma logging sheets in the field and then entered into Excel spreadsheets at the Ngualla site office. The spreadsheets include in-built validation settings and look-up codes. Scans of original field data sheets are digitally stored and secured. The data entered into the spreadsheets are reviewed and validated by the field geologist before being imported into a secure central database, managed by SRK Australia. Data collection and entry procedures are documented, and all staff involved in these activities are trained in the relevant procedures. With the exception of setting grades

		recorded as below detection to half the detection limit in the extracts used for mineral resource estimation, no adjustments to any the assay data have been made.
Location of data points	Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation. Specification of the grid system used. Quality and adequacy of topographic control.	The spatial data for Ngualla are reported using the ARC 1960 UTM, Zone 36S coordinate system. Drill collars were surveyed using a handheld GPS. A DGPS survey is currently being conducted, which will replace the GPS surveys once complete. Down hole surveys were completed during drilling using Reflex Gyro Sprint-IQTM, with readings taken at a nominal interval of every 10m down all DDH holes and RC holes. The elevation for each drill hole collar was adjusted to the elevation of a laterally coincident point on the topographic surface derived from a LiDAR survey flown for Peak by Digital Mapping Australia Pty Ltd in 2012. The LiDAR data have a reported accuracy of 10 cm in elevation and 15 cm north and south.
Data spacing and distribution	Data spacing for reporting of Exploration Results. Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied. Whether sample compositing has been applied.	The nominal drill hole spacing is 40 x 150 m in the Breccia Zone and 160 x 200 m in the Northern Zone. 1 m RC drill samples were combined in the field to form 2 m composite samples for final assay submission; 2 m composites are considered adequate for resource estimation and for the definition needed for the likely mining techniques for this style of mineralisation.
Orientation of data in relation to geological structure	Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type. If the relationship between the drilling	The local karstic and magmatic structures display a variety of orientations and most of the drilling has been conducted on east-west traverses with holes angled 60° to the west. This orientation is considered suitable

	orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.	for the dominant mineralisation orientations. No orientation-based sampling biases have been identified or are expected for this style of mineralisation.
Sample security	The measures taken to ensure sample security.	The chain of custody of samples is managed by Peak. The samples are kept in sealed bags at an onsite storage facility prior to being trucked to the SGS laboratory Mwanza by Peak personnel. The Mwanza laboratory checks the received samples against the sample despatch forms and issues a reconciliation report. Following sample preparation, the pulp samples are transported to Nagrom, Perth by tracked air freight.
Audits or reviews	The results of any audits or reviews of sampling techniques and data.	An SRK Consultant audited Peak's sampling, QAQC, and data entry protocols during a site visit at the start of the drilling campaign and considered the procedures to be consistent with industry best practice, and the data of sufficient quality for resource estimation.

Appendix 3: Section 2 Reporting of Exploration Results (JORC Code 2012 Edition)

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

Criteria	Explanation	Commentary
Mineral tenement and land tenure status	Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings. The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.	The mineralisation lies wholly within the Special Mining Licence 693/2023 granted to Mamba Minerals Corporation Limited on 25 April 2023 (Mamba Minerals). Mamba Minerals was incorporated to hold the SML to develop and operate the Ngualla Project. Its shareholders on incorporation and currently are Peak 100% subsidiary, Ngualla Group UK Limited (NGUK) and the Office of the Treasury Registrar for and on behalf of the United Republic of Tanzania Government (the Registrar). NGUK holds 84% of the issued capital of Mamba Minerals, with the Registrar holding 16%. The SML is initially for a term of 30 years over the area set out in the original SML application, which covers ~18.14km2 and contains the Ngualla Project deposit. The SML area will be expanded in the future to include an existing Prospecting Licence (PL 10897/2016) and the expired Prospecting Licence (PL 9157/2013). The initial term will also be amended to be the shorter of 33 years and the life of the mine, with the ability to extend on application in accordance with the law at the time. There is no habitation or farming on the mineralised area and there are no wilderness, historical sites, national parks or environmental settings known to Peak at this time that would impede development and operation of the Ngualla Project.
Exploration done by other parties	Acknowledgment and appraisal of exploration by other parties.	No systematic exploration for rare earths or niobium had been undertaken at Ngualla prior to Peak Resources acquiring the project in 2009. Limited reconnaissance exploration and surface sampling for phosphate had been

		undertaken by a joint Tanzanian-Canadian university based non-government organisation in the early 1980s.
Geology	Deposit type, geological setting and style of mineralisation.	The Ngualla Project is centred on the Ngualla Carbonatite, a 4 km x 3.5 km pipe-like intrusive body composed of carbonate mineral-rich, alkaline igneous rocks. The predominant components of the complex are an annular calcite carbonatite (and magnesiocarbonatite) and a central body of ferrocarbonatite. Weathering of the Ngualla carbonatite complex and landscape evolution were critical factors in the formation of the rare earth oxides, phosphate and niobium mineralisation. The mechanism of weathering differs according to carbonatite type and the different processes of mineralisation. Mineralisation has been residually enriched in the oxide zone at surface through weathering and the removal of carbonate minerals to variable depths of up to 140 m vertically. Rare earth elements are enriched in the central ferrocarbonatite relative to the calcite carbonatite and magnesiocarbonatite, but the calcite carbonatite is the main source of phosphate and niobium. Fluorite mineralisation has been identified within a 3.8 km long structural zone or brecciated fenite within the alteration halo that surrounds the intrusive carbonatite.
Drill hole Information	A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes: - easting and northing of the drill hole collar - elevation or RL (Reduced Level – elevation above sea level in metres)	The drill hole plan in Figure 1 illustrates the distribution of drilling and the details are tabulated in Table 1.

	of the drill hole collar - dip and azimuth of the hole - down hole length and interception depth - hole length. If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.	
Data aggregation methods	In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g. cutting of high grades) and cut-off grades are usually Material and should be stated. Where aggregate intercepts incorporate short lengths of high-grade results and longer lengths of low-grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail. The assumptions used for any reporting of metal equivalent values should be clearly stated.	The massive and consistent nature of the mineralisation at Ngualla and the resulting uniform grade distribution does not require the statement of any higher-grade intervals when using a 1% REO lower cut-off grade, a 10% phosphate lower cut-off grade and a 0.25% niobium oxide lower cut-off grade. Rare earth grade is reported as 'Total Rare Earth Oxide', (REO), which is calculated as the sum of the individual 14 rare earth oxides plus yttrium, as shown in Table 2 of this document. No metal equivalents are reported in the intersection table.
Relationship between mineralisation widths and intercept lengths	These relationships are particularly important in the reporting of Exploration Results. If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported. If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (e.g. 'down hole length, true width not known').	Ngualla's rare earth and phosphate mineralisation occurs as a thick horizontal blanket developed over an irregular karstic surface that has both vertical and horizontal form and is developed on a vertical primary magmatic fabric, therefore there are both horizontal and vertical controls. Drilling reported is all at 60° to the west to best intersect both the vertical and horizontal components. All reported intersections are down hole lengths.
Diagrams	Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported. These should	The accompanying document is considered to represent a balanced report. Reporting of grades is done in a consistent

	include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.	manner. All previous significant intersections have been fully reported in previous releases.
Balanced reporting	Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.	The accompanying document is considered to represent a balanced report. Reporting of grades is done in a consistent manner. All previous significant intersections have been fully reported in previous releases.
Other substantive exploration data	Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.	Multi-element assaying is carried out on all samples, including for potentially contaminating elements and radioactive elements such as uranium and thorium. Other exploration data is not considered material to this document at this stage.
Further work	The nature and scale of planned further work (e.g. tests for lateral extensions or depth extensions or large-scale step-out drilling). Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.	Further drilling and sampling will be planned following completion and assessment of the current program.