29 November 2018

Second drill results at Longonjo extend mineralisation to the north and identify thick new zones of NdPr

Pensana Metals Ltd ("Pensana" or "Company") (ASX: PM8) is pleased to report additional positive assay results from its exploration drilling programme at the Longonjo NdPr Project in infrastructure rich Angola.

The reverse circulation drill programme is testing an area approximately ten times that of the maiden Mineral Resource estimate.

Results from a further 23 holes of the total 108 hole programme have extended the mineralisation to the north and identified new and deeper zones of NdPr mineralisation extending from surface up to 65 metres in thickness.

Substantial widths of high grade niobium mineralisation were also intersected.

The thickness of the mineralisation intersected in this previously untested northern area of the project compares favourably with the average twenty metres of thickness in the area of the current Mineral Resource estimate located 800 metres to the south.

The new mineralisation intersected in the north is particularly enriched in NdPr, which can comprise around 27% of the total rare earths compared with around 20% in the Mineral Resource estimate area. The mineralisation is also more enriched in the heavy rare earths and contains some high grade niobium.

Highlights include:

Drill hole	**Intersection***
LRC033:	**65 metres** at 2.61% REO including **0.71% NdPr** from surface to end of hole
LRC027:	**44 metres** at 2.56% REO including **0.51% NdPr** from 14 metres

LRC037: **38 metres** at 1.97% REO including **0.50% NdPr** from surface

LRC025: **40 metres** at 2.15% REO including **0.43% NdPr** from surface to end of hole

*NdPr = neodymium – praseodymium oxide. A 0.20% NdPr grade cut applied. REO = total rare earth oxides

Niobium

High grade niobium mineralisation was intersected in drill hole LRC033 up to: **22 metres at 1.08% Nb_2O_5 from 10 metres**. The mineralisation is hosted by a deeply weathered, barite-rich carbonatite, which is untested for 500 metres to the south.

The 2018 drilling programme is now complete and further assay results are expected over coming weeks from an additional 71 drill holes.

Executive Director Dave Hammond commented:

"These thick intersections from surface have confirmed widespread and particularly NdPr-rich mineralisation in the untested northern area of the project.

We are very much looking forward to receiving the results from the remaining 71 holes as the scale of this very promising NdPr deposit begins to unfold."

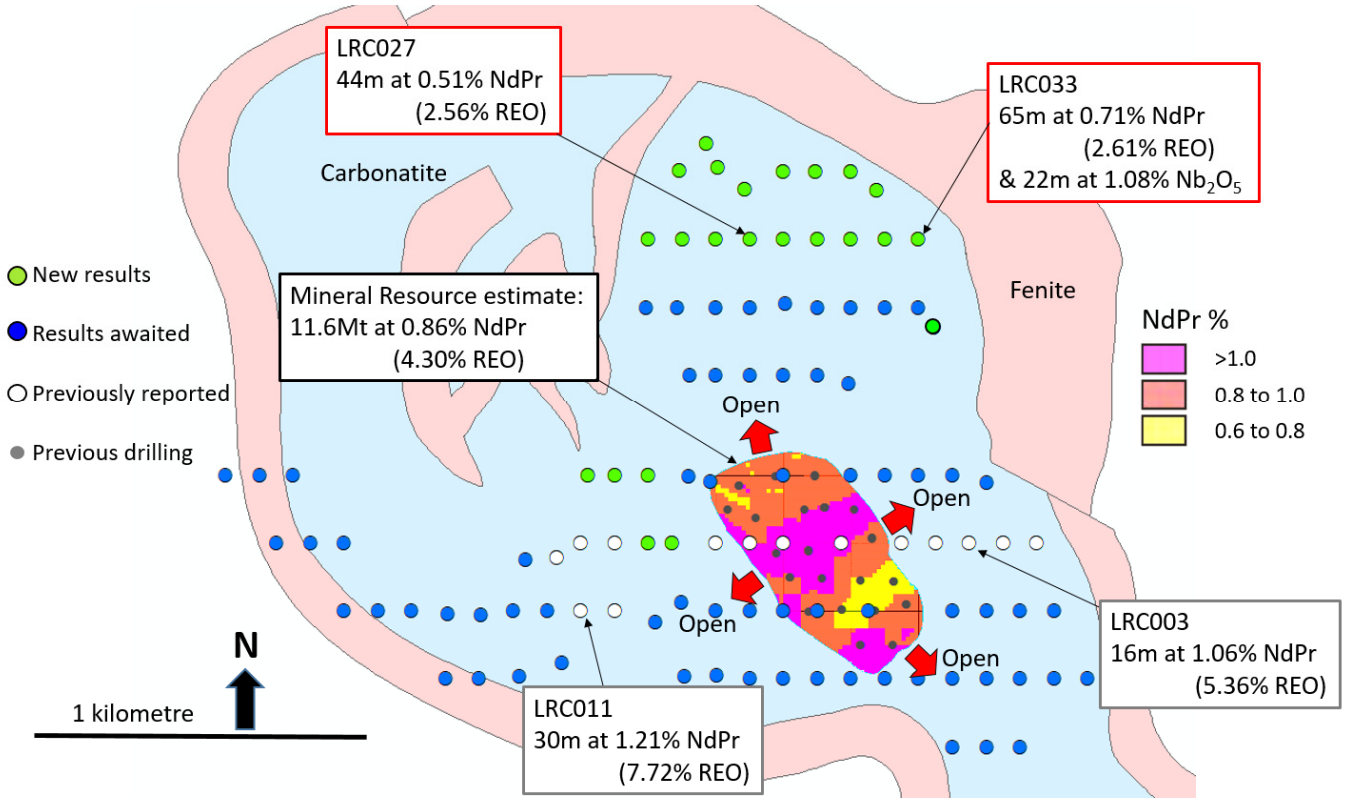
Technical Report

Assay results have been received from a further 23 drill holes completed at the Company's 84% owned Longonjo NdPr Project in Angola.

Drilling is testing an area ten times that of the maiden Mineral Resource estimate (**11.6 million tonnes at 4.30% REO including 0.86% NdPr**, see ASX announcement 26 September 2017), which remains open in all directions.

The wide spaced vertical drilling has intersected thick zones of mineralisation from surface up to **65 metres at 2.61% REO including 0.71% NdPr from surface to end of hole.**

The thickness of the mineralisation intersected in this previously untested northern area of the project compares well to the average twenty metres of thickness in the area of the current Mineral Resource estimate located 800 metres to the south.



Location of new drill results with respect to the maiden Mineral Resource estimate and the extent of the prospective Longonjo Carbonatite. Results from a further 71 drill holes are expected over the coming weeks.

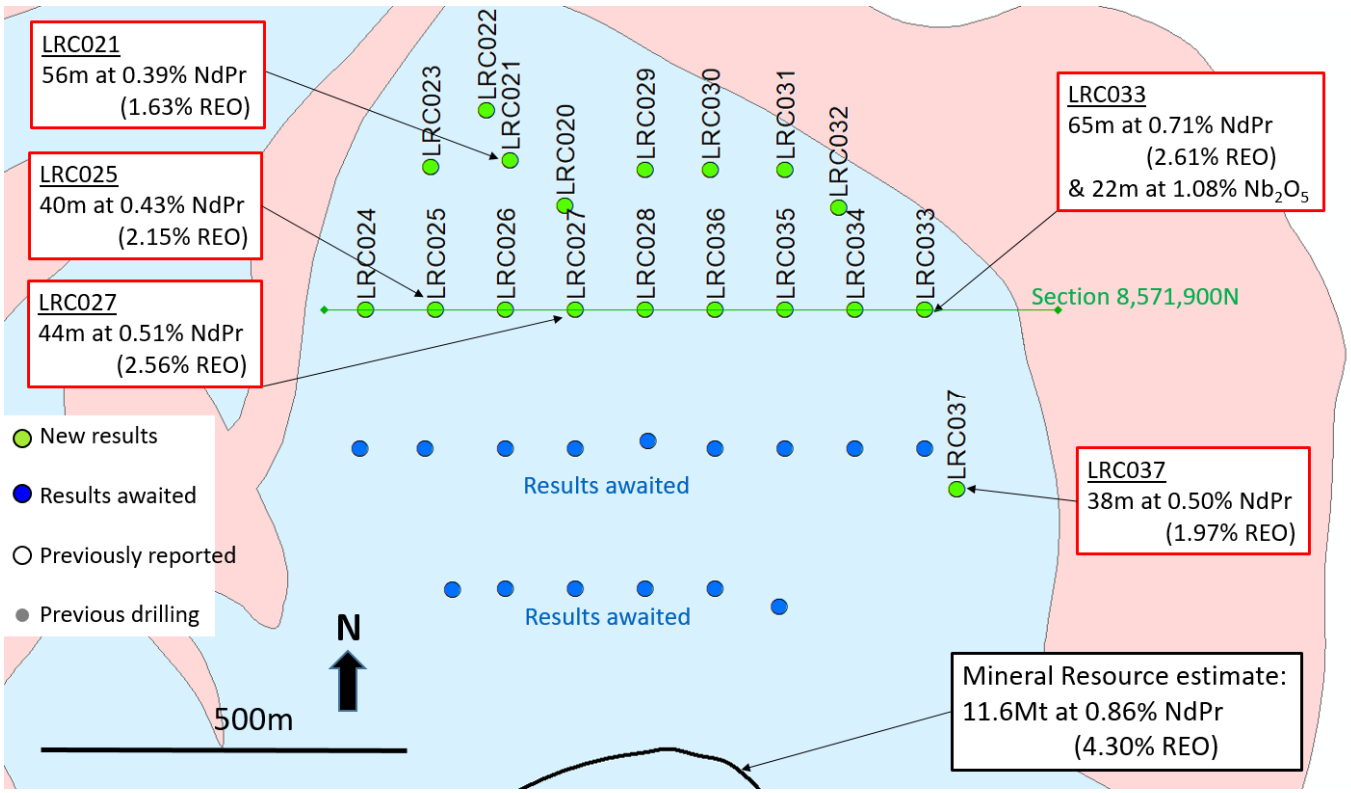
The mineralisation intersected in the north, although lower in total rare earth grade overall, can be relatively enriched in higher value NdPr, which in this area comprises 27% of the total rare earths, compared to 20% in the Mineral Resource area to the south (Table 2).

The mineralisation also contains a higher proportion of heavy rare earths as well as high grade niobium, with **LRC033** returning **22 metres at 1.08% Nb_2O_5 from 10 metres** within barite – rich weathered carbonatite.

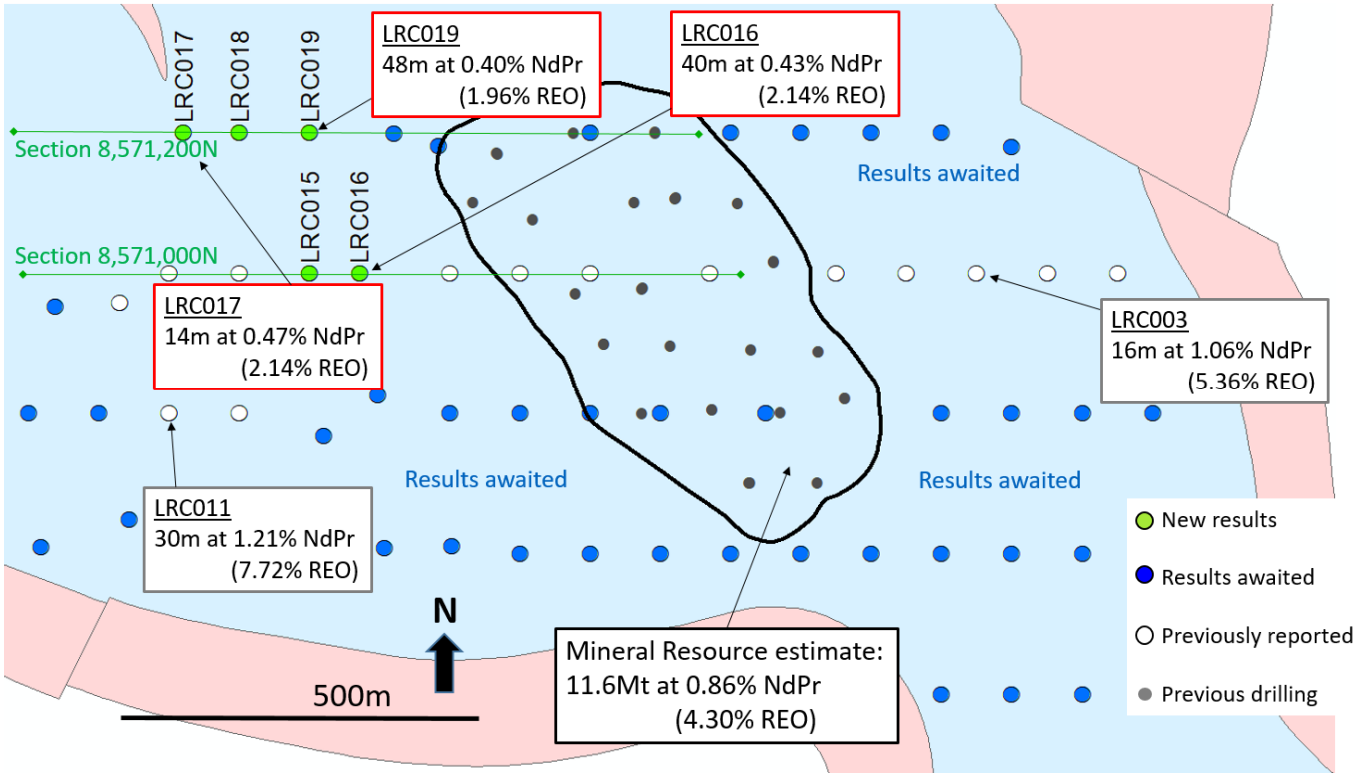
The new results confirm widespread NdPr mineralisation from surface across the carbonatite and is particularly enriched in the weathered zone. Intersections at a 0.20% NdPr grade cut include:

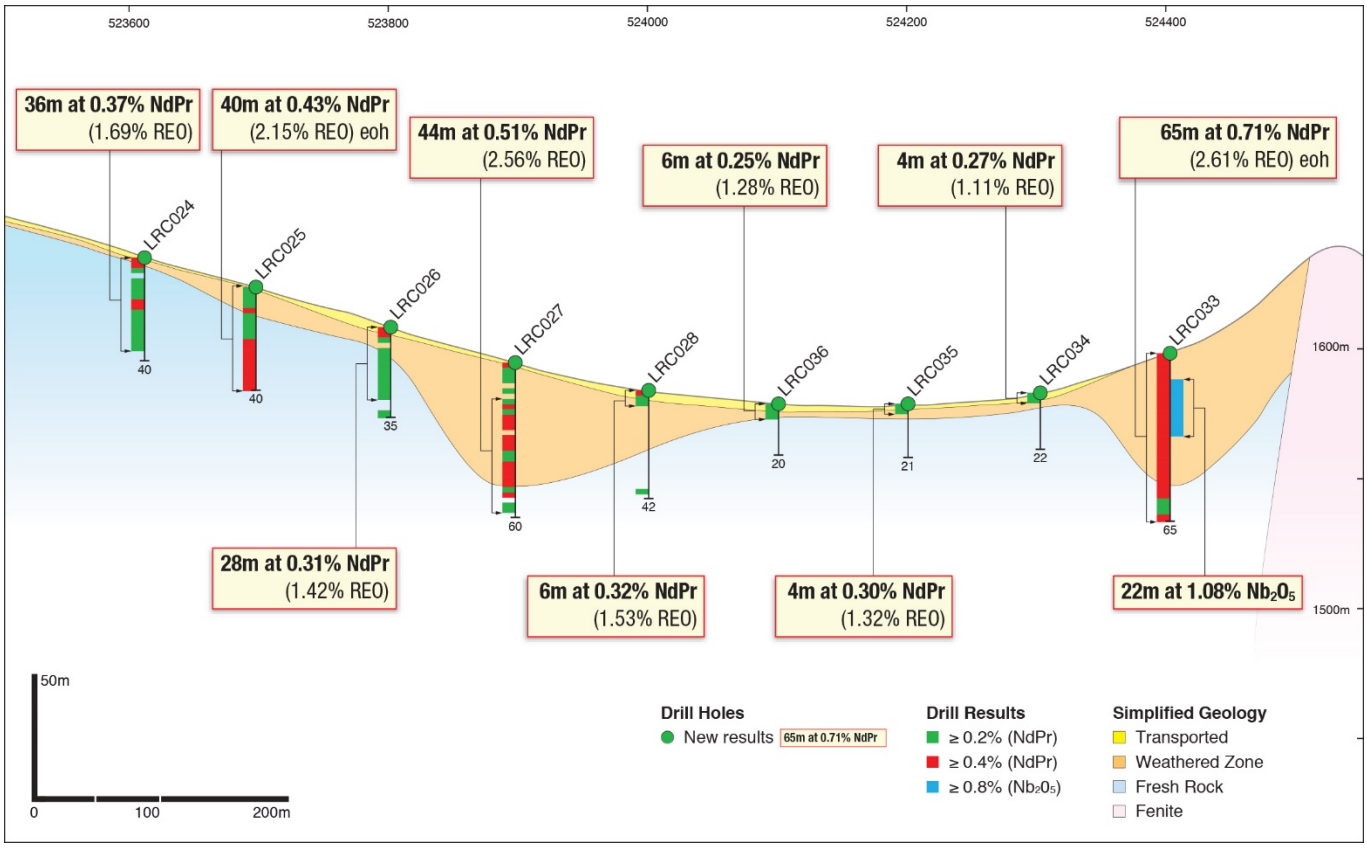
Drill hole	**Intersection***
LRC033:	**65 metres** at 2.61% REO including **0.71% NdPr** from surface to end of hole
LRC027:	**44 metres** at 2.56% REO including **0.51% NdPr** from 14 metres
LRC037:	**38 metres** at 1.97% REO including **0.50% NdPr** from surface
LRC025:	**40 metres** at 2.15% REO including **0.43% NdPr** from surface to end of hole
LRC016:	**40 metres** at 2.14% REO including **0.43% NdPr** from surface
LRC017:	**14 metres** at 2.14% REO including **0.47% NdPr** from surface
LRC019:	**48 metres** at 1.96% REO including **0.40% NdPr** from surface to end of hole

*Intersection highlights reported at ≥0.20% NdPr. NdPr = neodymium + praseodymium oxide: Nd_2O_3+Pr_6O_{11}. REO = total rare earth oxides, the sum of La_2O_3, CeO_2, Pr_6O_{11}, Nd_2O_3, Sm_2O_3, Eu_2O_3, Gd_2O_3, Tb_4O_7, Dy_2O_3, Ho_2O_3, Er_2O_3, Tm_2O_3, Yb_2O_3, Lu_2O_3, Y_2O_3. Table 1 provides all NdPr and REO intersections ≥0.20% and ≥0.40% NdPr together with drill hole details.



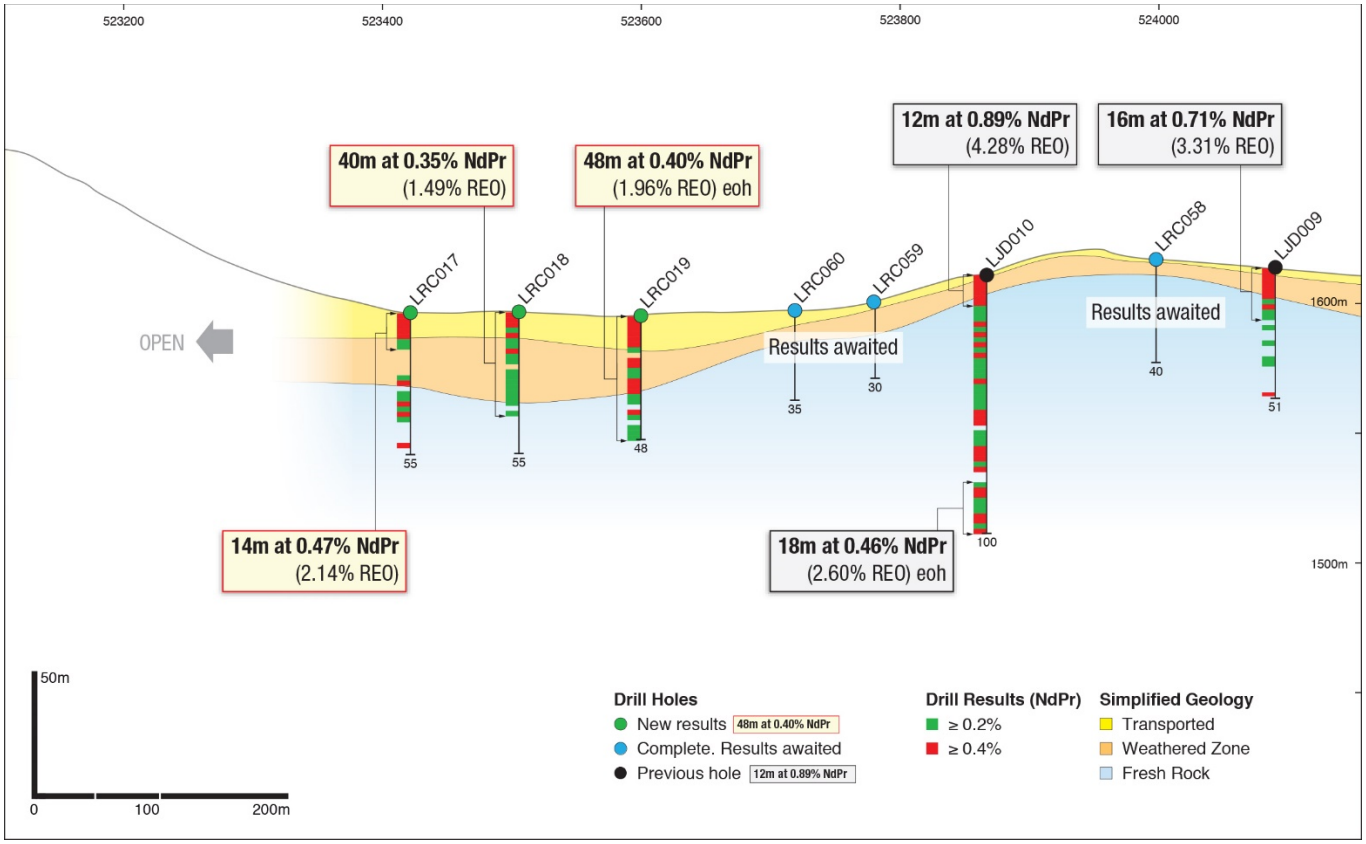
Above and below: Intersection highlights from the new drilling results, which identify thick zones of NdPr mineralisation 800m to the north of the current Mineral Resource estimate. The majority of intersections start at surface (see Table 1). Mineralisation remains open in all directions with many assay results still to be received.

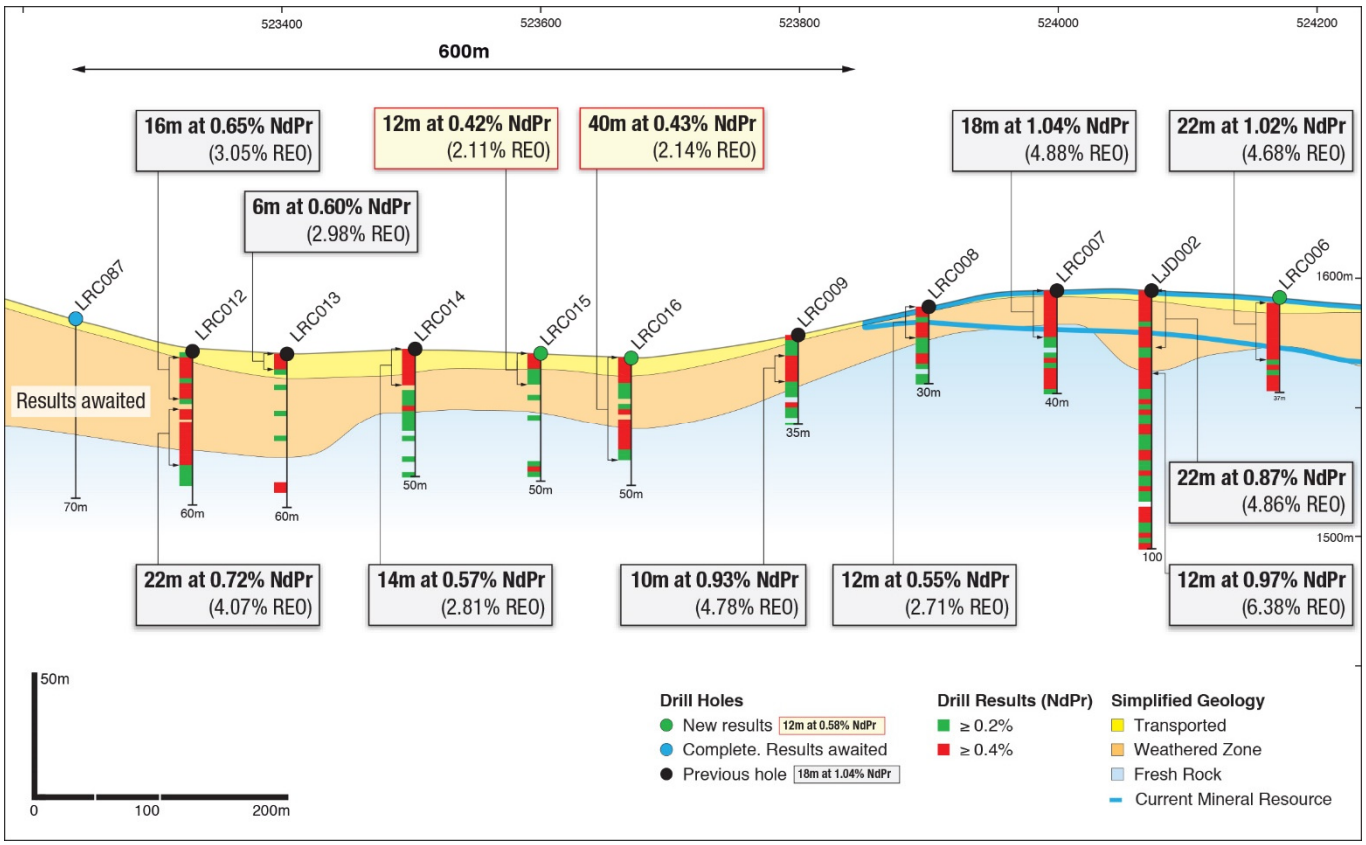




Above: New assay results from section line 8,571,900N, located in the north of the project, 630 metres north of the northern limit of the current Mineral Resource estimate. See plans for location. **Note horizontal scale 2x the vertical - drill holes are 100 metres** apart for all sections.

Below: New results on section line 8,571,200N. Note thick blanket of mineralisation remains open to the west.





Above: New assay results from western portion of section line 8,571,000N showing potential to extend the current Mineral Resource estimate at least 600 metres to the west. See plans for location**. Note horizontal scale 2x the vertical - drill holes are 100 metres** apart.

The successful delineation of a very large expanded NdPr Mineral Resource estimate at Longonjo would allow the Company to identify and select the most favourable, highest quality mineralisation for development.

The 2018 exploration drill programme is now successfully completed. Samples from the remaining 71 of these drill holes have been despatched from site to the laboratory for analysis and the Company looks forward to providing regular updates on the flow of results as they are received.

Competent Persons Statement

The information in this report that relates to Geology and Exploration results is based on information compiled and/or reviewed by David Hammond, who is a Member of The Australian Institute of Mining and Metallurgy. David Hammond is the Chief Operating Officer and a Director of the Company. He has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and the activity which he is undertaking to qualify as a Competent Person in terms of the 2012 Edition of the Australian Code for the Reporting of Exploration Results, Mineral Resources and Ore Reserves. David Hammond consents to the inclusion in the report of the matters based on his information in the form and contest in which it appears.

The information in this report that relates to the Mineral Resource estimate for the Longonjo Project is based on information compiled by Dr Heather King who is a member of a 'Recognised Professional Organisation' (RPO) included in a list posted on the ASX website from time to time, specifically the South African Council for Natural Scientific Professions, and Dr King is registered as a Professional Natural Scientist (Pr. Sci. Nat.). Dr King is a full-time employee of Deloitte, consulting to Pensana Metals Ltd. Dr King 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'. Dr King consents to the inclusion in the report of matters based on her information in the form and context in which it appears.

Table 1: Longonjo NdPr Project, RC drill intersections greater than 4m thick and ≥0.20% NdPr. Intersections ***> 0.40% NdPr*** shown in ***bold italics***

Hole ID	East	North	RL	Hole Depth (m)	From (m)	To (m)	Interval (m)	REO %	NdPr %
LRC015	523,600	8,571,000	1,557	50 ***(incl.***	0 ***0*** 42	12 ***6*** 48	12 ***6*** 6	2.11 ***2.56*** 1.65	0.42 ***0.52)*** 0.33
LRC016	523,670	8,571,000	1,557	50 ***(incl.*** ***and***	0 ***0*** ***24***	40 ***10*** ***36***	40 ***10*** ***12***	2.14 ***2.38*** ***2.94***	0.43 ***0.50*** ***0.58)***
LRC017	523,422	8,571,198	1,591	55 ***(incl.***	0 ***0*** 24	14 ***10*** 42	14 ***10*** 18	2.14 ***2.57*** 2.03	0.47 ***0.55)*** 0.38
LRC018	523,506	8,571,201	1,587	55 ***(incl.***	0 ***0***	40 ***10***	40 ***10***	1.49 ***2.52***	0.35 ***0.54)***
LRC019	523,600	8,571,195	1,583	48 ***(incl.*** ***and*** ***and***	0 ***0*** ***16*** ***24***	48 ***12*** ***20*** ***30***	48eoh ***12*** ***4*** ***6***	1.96 ***2.76*** ***3.31*** ***2.39***	0.40 ***0.55*** ***0.60*** ***0.49)***
LRC020	523,887	8,572,050	1,684	70 ***(incl.***	0 ***0***	22 ***8***	22 ***8***	1.68 ***2.72***	0.41 ***0.68)***
LRC021	523,805	8,572,118	1,706	70 ***(incl.*** ***and*** ***and***	0 14 ***16*** ***40*** ***62***	10 70 ***28*** ***44*** ***70***	10 56eoh ***12*** ***4*** ***8eoh***	1.06 1.63 ***2.09*** ***2.35*** ***2.35***	0.30 0.39 ***0.57*** ***0.48*** ***0.47)***
LRC022	523,778	8,572,185	1,711	43	***0*** 32	***6*** 36	***6*** 4	***1.94*** 0.84	***0.69*** 0.26
LRC023	523,700	8,572,105	1,719	50 ***(incl.*** ***and***	0 ***0*** ***10*** 46	26 ***4*** ***20*** 50	26 ***4*** ***10*** 4eoh	1.49 ***2.37*** ***1.38*** 0.97	0.38 ***0.55*** ***0.39)*** 0.25

Hole ID	East	North	RL	Hole Depth (m)	From (m)	To (m)	Interval (m)	REO %	NdPr %
LRC024	523,612	8,571,899	1,715	40 ***(incl.*** ***and***	0 ***0*** ***16***	36 ***4*** ***20***	36 ***4*** ***4***	1.69 ***2.98*** ***2.42***	0.37 ***0.67*** ***0.50)***
LRC025	523,698	8,571,900	1,708	40 ***(incl.***	0 ***20***	40 ***40***	40eoh ***20eoh***	2.15 ***2.85***	0.43 ***0.53)***
LRC026	523,802	8,571,901	1,694	35 ***(incl.***	0 ***0*** 32	28 ***4*** 35	28 ***4*** 3eoh	1.42 ***2.26*** 1.35	0.31 ***0.54)*** 0.24
LRC027	523,898	8,571,900	1,680	60 ***(incl.*** ***and***	0 14 ***20*** ***38***	8 58 ***34*** ***48***	8 44 ***14*** ***10***	1.60 2.56 ***3.57*** ***2.94***	0.35 0.51 ***0.74*** ***0.57)***
LRC028	524,001	8,571,898	1,672	42	0	6	6	1.53	0.32
LRC029	524,002	8,572,102	1,671	25	14	25	11eoh	1.11	0.27
LRC030	524,089	8,572,099	1,652	27	0	4	4	1.58	0.34
LRC031	524,202	8,572,097	1,645	22	No significant intersection				
LRC032	524,275	8,572,042	1,655	21	No significant intersection				
LRC033	524,403	8,571,899	1,685	65 ***(incl.***	0 ***0***	65 ***56***	65eoh ***56***	2.61 ***2.84***	0.71 ***0.76)***
LRC034	524,303	8,571,897	1,671	22	0	4	4	1.11	0.27
LRC035	524,201	8,571,894	1,664	21	0	4	4	1.32	0.30
LRC036	524,101	8,571,900	1,660	20	0	6	6	1.28	0.25
LRC037*	524,450	8,571,638	1,701	50 ***(incl.***	0 ***0***	38* ***28***	38* ***28***	1.97 ***2.14***	0.50 ***0.54)***

REO = Total rare earth oxide includes NdPr and is the sum of La_2O_3, CeO_2, Pr_6O_{11}, Nd_2O_3, Sm_2O_3, Eu_2O_3, Gd_2O_3, Tb_4O_7, Dy_2O_3, Ho_2O_3, Er_2O_3, Tm_2O_3, Yb_2O_3, Lu_2O_3, Y_2O_3. NdPr = neodymium + praseodymium oxide. eoh = intersection to end of hole. All holes are vertical reverse circulation. Co-ordinate system is WGS84 UTM Zone 33 south. Assays of 2m composite RC samples from vertical drilling by peroxide fusion and ICP analysis, Nagrom laboratories Perth, Western Australia. *LRC037 assay results received for first 38 metres of hole, remaining 12 metres awaited.

Table 2: - Relative components of individual rare earth oxides (including yttrium) as a percentage of total REO* for the weathered zone Mineral Resource estimate at a 1% REO lower cut-off grade compared to northern drill hole LRC033 at the same 1% REO lower cut-off grade

Oxide		Weathered Zone Mineral Resource		Northern drill hole LRC033	
		REO Grade (%)	Proportion (%) of Total REO*	REO Grade (%)	Proportion (%) of Total REO*
Total Rare Earth Oxides		4.30	100%	2.61	100%
Lanthanum	La_2O_3	2.06	27.0	0.43	16.4
Cerium	CeO_2	1.14	48.0	1.06	39.4
Praseodymium	**$Pr6O_{11}$**	**0.21**	**5.0**	**0.14**	**5.3**
Neodymium	**Nd_2O_3**	**0.65**	**15.0**	**0.57**	**22.0**
Samarium	Sm_2O_3	0.07	2.0	0.11	4.3
Europium	Eu_2O_3	0.02	0.4	0.03	1.1
Gadolinium	Gd_2O_3	0.03	1.0	0.06	2.4
Terbium	Tb_4O_7	0.00	0.1	0.01	0.3
Dysprosium	Dy_2O_3	0.01	0.4	0.04	1.4
Holmium	Ho_2O_3	0.00	0.1	0.01	0.2
Erbium	Er_2O_3	0.00	0.1	0.01	0.5
Thulium	Tm_2O_3	0.00	0.0	0.00	0.1
Ytterbium	Yb_2O_3	0.00	0.1	0.01	0.2
Lutetium	Lu_2O_3	0.00	0.0	0.00	0.0
Yttrium	Y_2O_3	0.06	1.0	0.17	6.3
REO	**Total %**	**4.30**	**100**	**2.61**	**100**

* REO = rare earth oxide. Figures may not sum due to rounding.

Table 3: Longonjo NdPr Project, RC drill intersections greater than ≥0.80% Nb_2O_5.

Hole ID	East	North	RL	Hole Depth (m)	From (m)	To (m)	Interval (m)	Nb_2O_5 %
LRC033	524,403	8,571,899	1,685	65	10	32	22	1.08

All holes are vertical reverse circulation. Co-ordinate system is WGS84 UTM Zone 33 south. Assays of 2m RC composite samples by peroxide fusion and ICP analysis, Nagrom laboratories Perth, Western Australia.

APPENDIX

Section 1 Sampling Techniques and Data

(Criteria in this section apply to all succeeding sections)

Criteria	JORC Code explanation	Commentary
Sampling techniques	• *Nature and quality of sampling (e.g. cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.*	• All samples are from vertical reverse circulation (RC) drilling sampled to 2m composites using a 3 tier riffle splitter to obtain approximately 4kg of sample from the whole one metre rig sample for sample preparation. Entire down hole lengths were sampled from surface to end of hole.
	• *Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.*	• During RC drilling the drill string is cleaned by flushing with air and the cyclone cleaned regularly. • Sampling is carried out under Pensana QAQC protocols and as per industry best practise. • RC sample returns are closely monitored, managed and recorded. A reference weight is used to calibrate the weighing scale. • Samples are riffle split using a 3 tier splitter which is cleaned between every sample
	• *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.*	• Vertical reverse circulation drilling and a riffle splitter were used to obtain 2m samples of approximately 3 to 4kgs. Samples are prepared (dry, split, pulverise, split) to a 100g pulp for analysis at Analabs laboratories Windhoek, Namibia • Samples are assayed at for Ca, Fe, K, Mg, Mn, P Pb, S, Si, Sr, Ti, Zn, Ce, Dy, Er, Eu, Gd, Hf, Ho, La, Lu, Nb, Nd, Pr, Sm, Ta, Tb, Th, Tm, U, Y, Yb, Al, Ba by peroxide fusion followed by ICP analysis at Nagrom laboratories, Perth, Western Australia. • All commercial laboratories used use industry best practise procedures and QAQC checks. • Entire hole lengths were submitted for assay.
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,*	• Reverse circulation (RC) drilling was completed using a Super rock 100 drill rig with a face sampling hammer button bit of 131mm diameter and 5 metre rods.

Criteria	JORC Code explanation	Commentary
	whether core is oriented and if so, by what method, etc).	

Drill sample recovery	• *Method of recording and assessing core and chip sample recoveries and results assessed.*	• RC recoveries were monitored closely, recorded and assessed regularly over the drilling programme. • Every 1m sample from the rig was weighed and recorded for moisture content. The weigh scale was calibrated frequently.
	• *Measures taken to maximise sample recovery and ensure representative nature of the samples.*	• RC sample weights are compared against expected weights for the drill diameter and geology. • Drill pipes and cyclone were flushed and cleaned regularly
	• *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.*	• Some short intervals 1 to 3 metres of reduced sample recovery occur in the soft weathered zone. Data analysis to date has not identified any relationship between recovery and grade. A selection of holes will be twinned by diamond core drilling to investigate any relationship.
Logging	• *Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.*	• RC 1m samples were geological logged by specifically trained geologists for the entire length of all holes. All relevant features such as lithology, mineralogy, weathering, structure, texture, grain-size, alteration, veining style and mineralisation were recorded in the geological log.
	• *Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.*	• All logging was quantitative. All RC chip trays were photographed.
	• *The total length and percentage of the relevant intersections logged.*	• All holes were logged in full 100%
Sub-sampling techniques and sample preparation	• *If core, whether cut or sawn and whether quarter, half or all core taken.*	• RC drilling only, no core drilling this programme
	• *If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.*	• 1m rig samples were riffle split using a 3 tier splitter. All samples were dry or wet samples were sun-dried in a protected environment before sampling.
	• *For all sample types, the nature, quality and appropriateness of the sample preparation technique.*	• The preparation of samples follows industry practice. This involves oven drying of the full 4kg 2m composite sample, splitting to a representative 1kg sample, pulverising to 85% passing 75 micron and splitting to a 100g sample pulp.
	• *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*	• Field duplicates, certified reference standards and blanks were inserted at random but on average every 27 samples for each as part of Pensana QAQC protocols as per industry best practise. Laboratories also have and report internal QAQC checks including assay and preparation duplicates • Field, preparation and assay lab duplicate results indicate no significant sampling variance

	sampling. • *Whether sample sizes are appropriate to the grain size of the material being sampled.*	• The sample sizes are considered more than adequate for this disseminated style and grainsize of material sampled. Repeatability of assays was good.
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.*	• The analysis was carried out by an accredited independent assay laboratory. • Samples are assayed at for Ca, Fe, K, Mg, Mn, P Pb, S, Si, Sr, Ti, Zn, Ce, Dy, Er, Eu, Gd, Hf, Ho, La, Lu, Nb, Nd, Pr, Sm, Ta, Tb, Th, Tm, U, Y, Yb, Al, Ba by peroxide fusion, hydrochloric leach and followed by ICP analysis at Nagrom laboratories, Perth, Western Australia. • The assay technique is 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.*	• Laboratory data only. No geophysical or portable analysis tools were used to determine assay values stored in the database.
	• *Nature of quality control procedures adopted (e.g. standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.*	• Certified reference materials (CRM's) –standards and blanks - were submitted at random with the field samples on an average of 1 of each type every in 27 field samples basis, as well as the laboratory's standard QAQC procedures. • Samples were selected periodically and screened tested to ensure pulps are pulverised to the required specifications. • Analysis of QAQC data results indicates acceptable levels of accuracy and precision
Verification of sampling and assaying	• *The verification of significant intersections by either independent or alternative company personnel.*	• Significant intersections have been verified by company management.
	• *The use of twinned holes.*	• No twin holes undertaken at this early stage.
	• *Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.*	• Field data was logged into an Ocris logging package and uploaded to the main, secure, database in Perth once complete. The data collection package ghas built in validation settings and look-up codes. All field data and assay data was verified and validated upon receipt. The database is managed by an independent and professional database manager offsite • Data collection and entry procedures are documented and training given to all staff • Scans of original field data sheets are stored digitally and never altered • Digital data entry is checked and validated against original field sheets if not entered directly

	• *Discuss any adjustment to assay data.*	• Laboratory assay data for rare earths is received in element form and converted to oxides for the reporting of rare earth results using molecular weight conversion and the oxide states factors: La to La_2O_3 – 1.1728 Ce to CeO_2 – 1.2284 Pr to Pr_6O_{11} – 1.2082 Nd to Nd_2O_3 – 1.1664 Sm to Sm_2O_3 – 1.1596 Eu to Eu_2O_3 – 1.1579 Gd to Gd_2O_3 – 1.1526 Tb to Tb_4O_7 – 1.1762 Dy to Dy_2O_3 – 1.1477 Ho to Ho_2O_3 – 1.1455 Er to Er_2O_3 - 1.1435 Tm to Tm_2O_3 – 1.1421 Yb to Yb_2O_3 – 1.1387 Lu to Lu_2O_3 - 1.1371 Y to Y_2O_3 – 1.2699 • Intersection grades are reported as REO (the sum of the above oxides) and as NdPr (the sum of Nd_2O_3 and Pr_6O_{11}, which is included in the REO grade • The intersection of niobium in LRC033 is reported as Nb_2O_5 using a conversion of: Nb to Nb_2O_5 - 1.4305
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.*	• All sample locations were surveyed using a hand held GPS, accurate to within 3m. Hole collars will be surveyed by a professional surveyor using an RTK DGPS at the end of the programme • Holes are vertical and no down hole survey was completed, the collar set up was checked on every hole by measuring the mast is vertical using a spirit level • The grid system used is WGS84 UTM Zone 33S. All reported coordinates are referenced to this grid. • Topography control is currently by GPS and SRTM radar data. A high precision satellite based topographic survey has been completed and will be used for future reporting of RLs and topography. An RTK DGPS survey has been completed on ground control points to ensure accuracy and precision of the satellite DTM survey
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*	• Drill hole spacing is 200m x 100m. Samples are 2m down hole. • Exploration results only being reported. Data spacing is considered sufficient to identify zones of NdPr and REO mineralisation at a reconnaissance level over the area drill tested. Infill drilling will be completed prior to further Mineral Resource estimation.

	classifications applied. • *Whether sample compositing has been applied.*	• 1m RC drill samples were combined in the field after riffle splitting for a final 2m composite sample for submission to laboratory. • Two metre composites are considered adequate for the resource estimation, variography studies and potential 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 orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.*	• The high grade NdPr mineralisation at Longonjo takes the form of a thick horizontal blanket of disseminated mineralisation averaging 20m or more in thickness and with good lateral continuity. The vertical drilling and 2m sampling is optimum for this style of mineralisation. • No sampling bias is considered to have been introduced by the drilling orientation.
Sample security	• *The measures taken to ensure sample security.*	• Sample security is managed by the Company. After collection in the field the samples are stored at camp in locked sea containers. • A customs officer checks and seals the samples into containers on site before transportation by the Company directly to the preparation laboratory. The preparation laboratory submits the samples to the assay laboratory by international air freight – the samples again being inspected by customs and sealed prior to despatch. • The laboratories audit the samples on arrival and reports any discrepancies back to the Company. No such discrepancies occurred.
Audits or reviews	• *The results of any audits or reviews of sampling techniques and data.*	• No external review of the sampling techniques has been carried out. The database is compiled by an independent consultant and is considered by the Company to be of sufficient quality to support the results reported. In addition, from time to time, the Company carries out its own internal data audits.

Section 2 Reporting of Exploration Results

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

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	• *Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.* • *The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.*	• Prospecting License 013/03/09T.P/ANG-M.G.M/2015. Pensana owns an 84% holding in the Project with Ferrangol (10%), an agency of the Angolan government, and other Angolan partners (6%). • The concession is in good standing and no known impediments exist.
Exploration done by other parties	• *Acknowledgment and appraisal of exploration by other parties.*	• Previous workers in the area include Black Fire Minerals and Cityview Corporation LTD.
Geology	• *Deposit type, geological setting and style of mineralisation.*	• The Longonjo NdPr deposit is a rare earth enriched carbonatite with particularly high grades occurring within the weathered regolith zone from surface as a result of the dissolution of carbonate minerals and residual enrichment. Some mineralisation also occurs within fresh rock beneath. Mineralisation is disseminated in style. The Longonjo Carbonatite is a sub circular and subvertical explosive volcanic vent (diatreme) approximately 2.6km x 2.4km in diameter. Primary rocktypes include carbonatite lava and magma, extensive mixed carbonatite - fenite breccia and tuffaceous deposits. The iron rich weathered zone that is host to the higher grade mineralisation discovered to date extends over much of the 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) of the*
		• Refer to the Table 2 in the body of the text. All holes are vertical

	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.*	• No material information was excluded.
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.*	• Cut-off grade of 0.20% NdPr oxide applied in reporting of intersections and 0.40% NdPr oxide for high grade 'Highlights'. No upper grade cuts have been applied. • A cut-off grade of 0.80% Nb_2O_5 applied in reporting of niobium intersections. No upper grade cuts have been applied. • Intersections are reported as length weighted averages above the specified cut-off grade. Length weighted grade averages for REO and NdPr are presented
	• *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.*	• Intercepts may include a maximum of 2m internal dilution.
	• *The assumptions used for any reporting of metal equivalent values should be clearly stated.*	• No metal equivalent values have been used for the reporting of these exploration results.
Relationship between mineralisation widths and intercept lengths	• *These relationships are particularly important in the reporting of Exploration Results.* • *If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.*	• Geometry of the mineralisation is a sub horizontal blanket, the drill holes are vertical. As such mineralisation is at a high angle to the drill holes.
	• *If it is not known and*	• Drill hole intercepts reported can be considered

	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').	true thicknesses

Diagrams	• *Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.*	• Appropriate plans and sections are included in this release.
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.*	• All new exploration results above the specified cut off grade are reported.
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.*	• Previously reported evaluations of the NdPr mineralisation at Longonjo, including the September 2017 Maiden Mineral Resource estimate and drilling programme results are contained within ASX releases
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).*	• The reported results are 23 drill holes of a 108 hole programme now successfully completed. Samples from a further 71 holes have been despatched to the laboratory and results will be reported when received. Drilling is designed to test the entire 2.1km x 2.0km area of the weathered zone at Longonjo as well as possible extensions 700 metres to the south east. Drilling is designed to determine the potential for a

	• *Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.*	globally significant NdPr deposit at Longonjo. • Appropriate diagrams accompany this release.