8 July 2019

Diamond drilling reports spectacular NdPr intersections and opens up fresh rock potential at Longonjo

Pensana Metals Ltd (ASX: PM8) is pleased to report particularly high grade intersections from a diamond core drilling programme completed at its Longonjo NdPr Project located within an infrastructure rich region of Angola.

The diamond drill infill programme has confirmed the previous reverse circulation drilling results in an area of mineralisation which is the focus of the Pre Feasibility Study due to be reported in September.

The surprises have been the particularly high grades of NdPr from surface and the intersection of high grade fresh rock mineralisation over a large area immediately below the weathered zone.

High grade intersections from surface include:

Drill hole	**Intersection***
LJD015:	**12 metres** at **11.6% REO** including **1.82% NdPr** from surface
LJD016:	**10 metres** at **9.13% REO** including **1.53% NdPr** from surface
LJD022:	**22 metres** at **5.40% REO** including **1.09% NdPr** from surface
LJD025:	**12 metres** at **6.00% REO** including **1.26% NdPr** from surface

*NdPr = neodymium – praseodymium oxide. REO = total rare earth oxides. Intersections reported at a +0.4% NdPr lower grade cut off. See Table 1 for details of all new drilling results, including wider intersections at a +0.2% NdPr cut

A **high grade fresh rock** target immediately beneath the weathered zone that is the focus of the Preliminary Feasibility Study has been identified.

End-of-hole intersections in the fresh rock include:

Drill hole	**Intersection***
LRC136:	**10 metres** at **4.61% REO** including **0.84% NdPr** from 12 metres to end of hole
LRC113:	**5 metres** at **4.94% REO** including **0.98% NdPr** from 22 metres to end of hole

*Fresh rock only intersections >0.4% NdPr. Combined weathered+fresh rock intersections reported previously. See Table 2 for details of 2019 drilling fresh rock intersections >0.4% NdPr.

The high grade **fresh rock mineralisation** extends over an area of 500 x 150 metres and remains open to the north and with depth.

A geological review of the Longonjo Project also demonstrates significant potential for additional **weathered zone mineralisation**, with major exploration targets identified along strike of currently defined mineralisation.

Executive Director Dave Hammond commented:

"Our strategy is to fast track Longonjo into early production based on the high grade weathered zone mineralisation.

These diamond core intersections have confirmed the very high NdPr grades that exist from surface within the area targeted for initial development by the PFS.

We are also excited by the tremendous potential for additional mineralisation that remains within the Longonjo Project.

Indications that a large zone of high grade fresh rock hosted mineralisation may lie immediately beneath the weathered zone adds a whole new dimension to the project and is something we will now be factoring into our development studies.

There are also a number of areas of the surface weathered zone mineralisation that remain to be tested and around the margins of the carbonatite there are several kilometres of ring dyke structures that could also be mineralised.

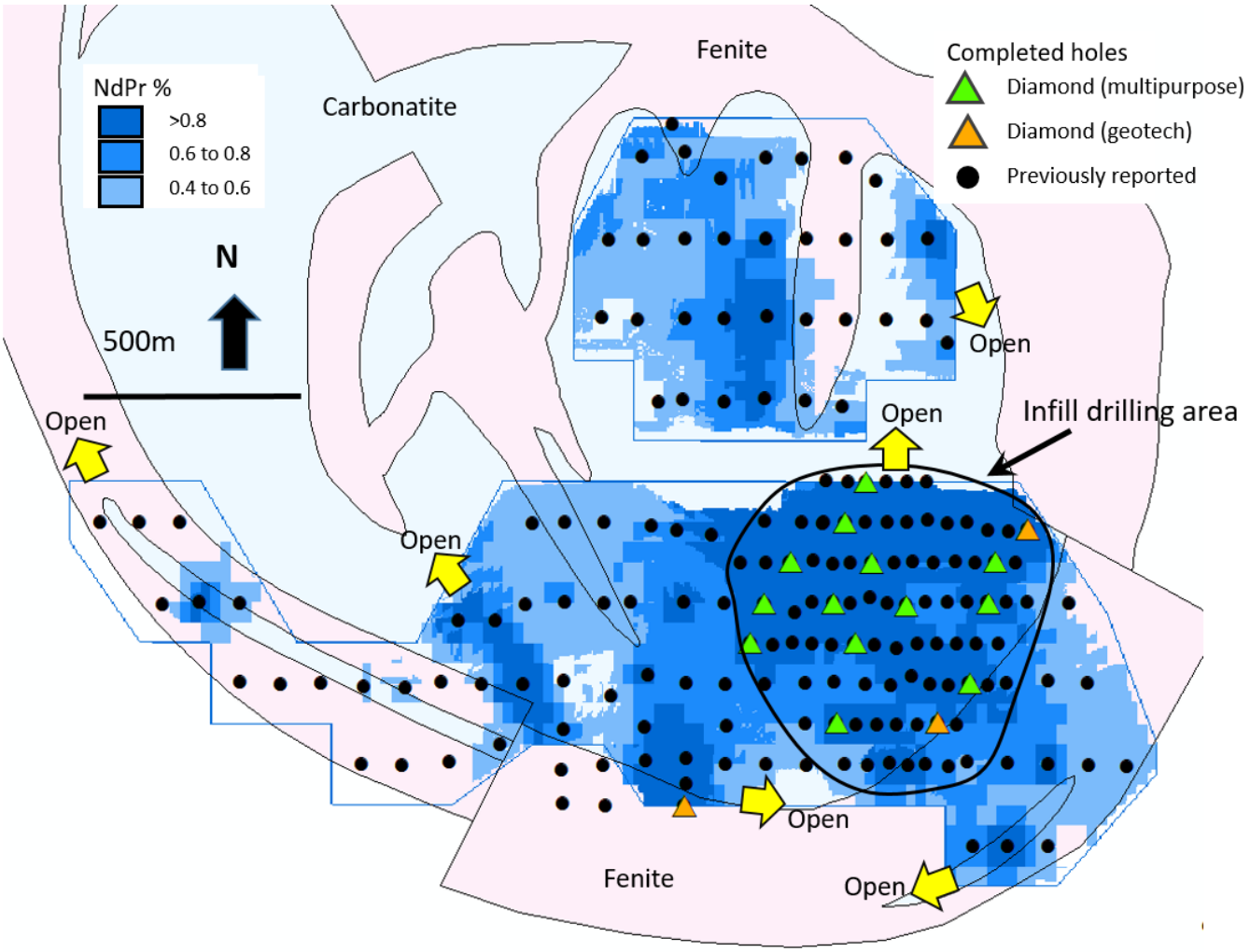
From an exploration perspective there is still a long way to go before Longonjo reveals its full potential."

Technical Report

Particularly high grade NdPr intersections have been returned from a 16 hole diamond core drilling programme completed in May at the Company's 84% owned Longonjo NdPr Project in Angola.

The drilling programme was completed to provide information and samples to support the series of technical work programmes for the Preliminary Feasibility Study (PFS) that is on schedule for completion in September 2019.

Additionally, a geological review completed now all 2019 drill results have been received has identified significant potential for additional NdPr mineralisation within the project.



Above: Plan view of the location of new assay results from the diamond drilling over the February 2019 Mineral Resource block model for the weathered mineralisation coloured by NdPr grade. Numerous open positions with potential for extensions to known mineralisation are indicated.

Diamond Core drilling results

A programme of 16 shallow diamond core holes sited as twins to previous RC holes have been completed to provide information and samples for the PFS technical work programmes:

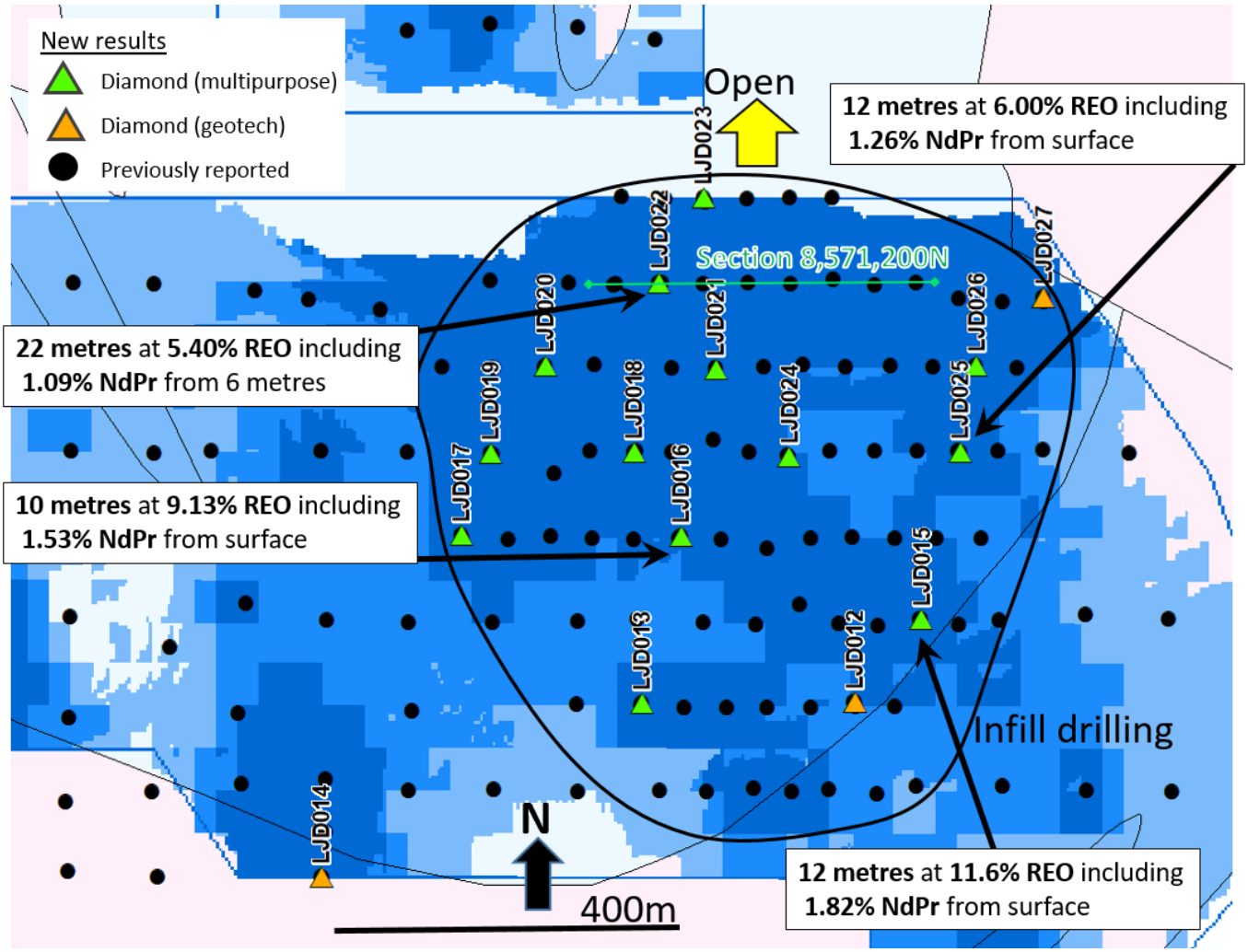
- for metallurgical optimisation testwork
- geotechnical information for open pit engineering design
- density determinations for Mineral Resource estimation
- twinning of RC drilling for Mineral Resource estimation

Assay results from the drilling have now been received and confirm the presence of very high grade NdPr mineralisation within the weathered zone, including:

Drill hole	Intersection*
LJD015:	**12 metres** at **11.6% REO** including **1.82% NdPr** from surface and
	7.45m at **4.94% REO** including **0.70% NdPr** from 22m to eoh
LJD016:	**10 metres** at **9.13% REO** including **1.53% NdPr** from surface and
	6 metres at **3.64% REO** including **0.74% NdPr** from 16m
LJD019:	**8 metres** at **6.03% REO** including **1.20% NdPr** from surface
LJD022:	**22 metres** at **5.40% REO** including **1.09% NdPr** from surface
LJD023:	**23.52 metres** at **4.49% REO** including **0.95% NdPr** from surface to end of hole
LJD025:	**12 metres** at **6.00% REO** including **1.26% NdPr** from surface
LJD026:	**12 metres** at **5.06% REO** including **0.94% NdPr** from surface and
	4 metres at **8.43% REO** including **2.13% NdPr** from 16 metres

*NdPr = neodymium – praseodymium oxide. REO = total rare earth oxides, eoh = end of hole. Intersections reported at a +0.4% NdPr lower grade cut off. See Table 1 for details of all new diamond drilling results, including wider intersections at a +0.2% NdPr cut

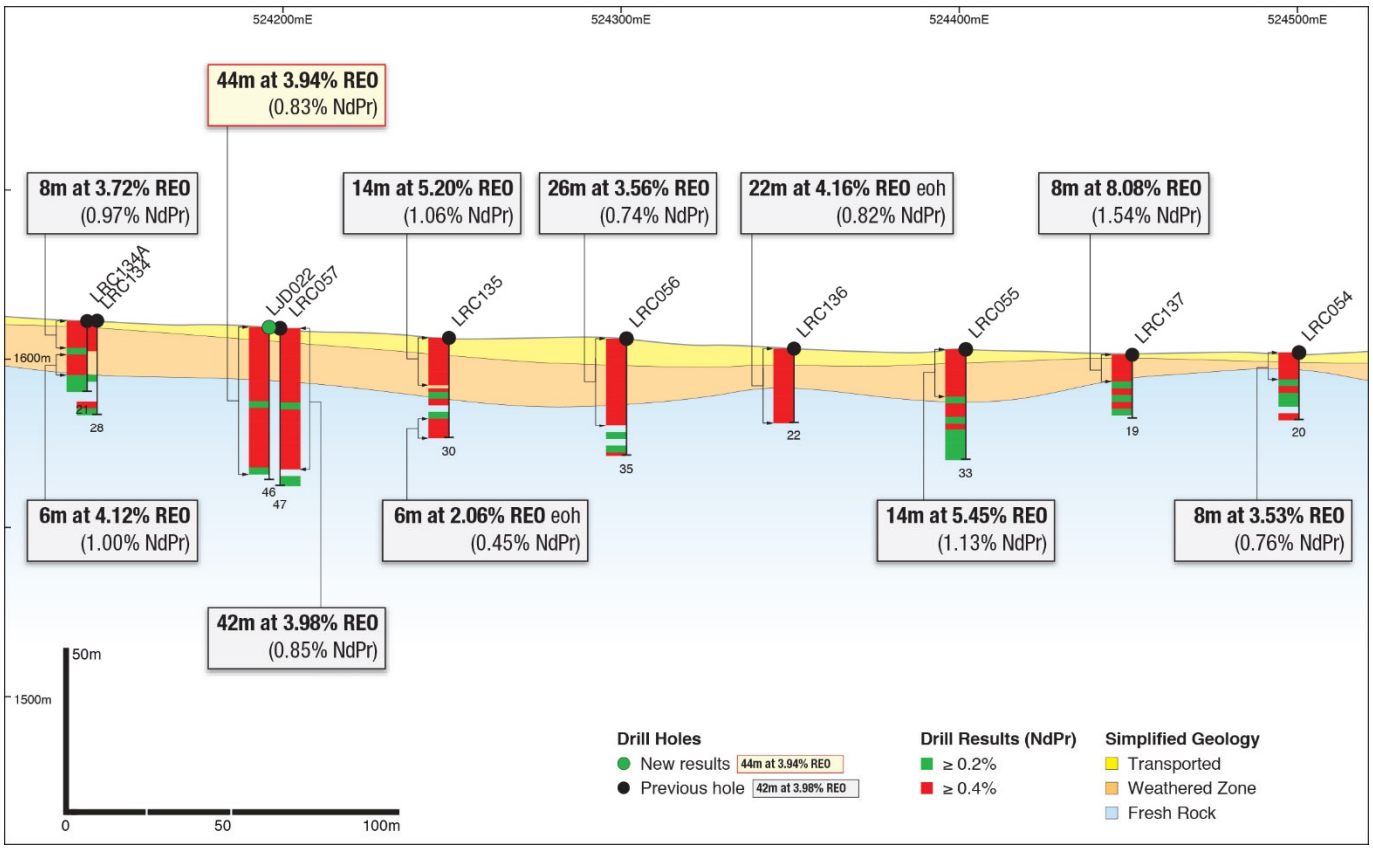
The plan following shows the location of these diamond core holes. Samples have now been selected and despatched from site to the test facilities conducting the PFS work programmes.



Above: Plan showing location of new diamond core assay results over February 2019 Mineral Resource block model for the weathered mineralisation (see previous figure for legend and location).

Assay results from the diamond drilling confirm the RC drill results. The vertical cross section following illustrates the consistency of the weathered blanket of high grade NdPr mineralisation from surface within the area of infill drilling.

Diamond core samples have already left site and are currently in transit to the PFS test facilities.

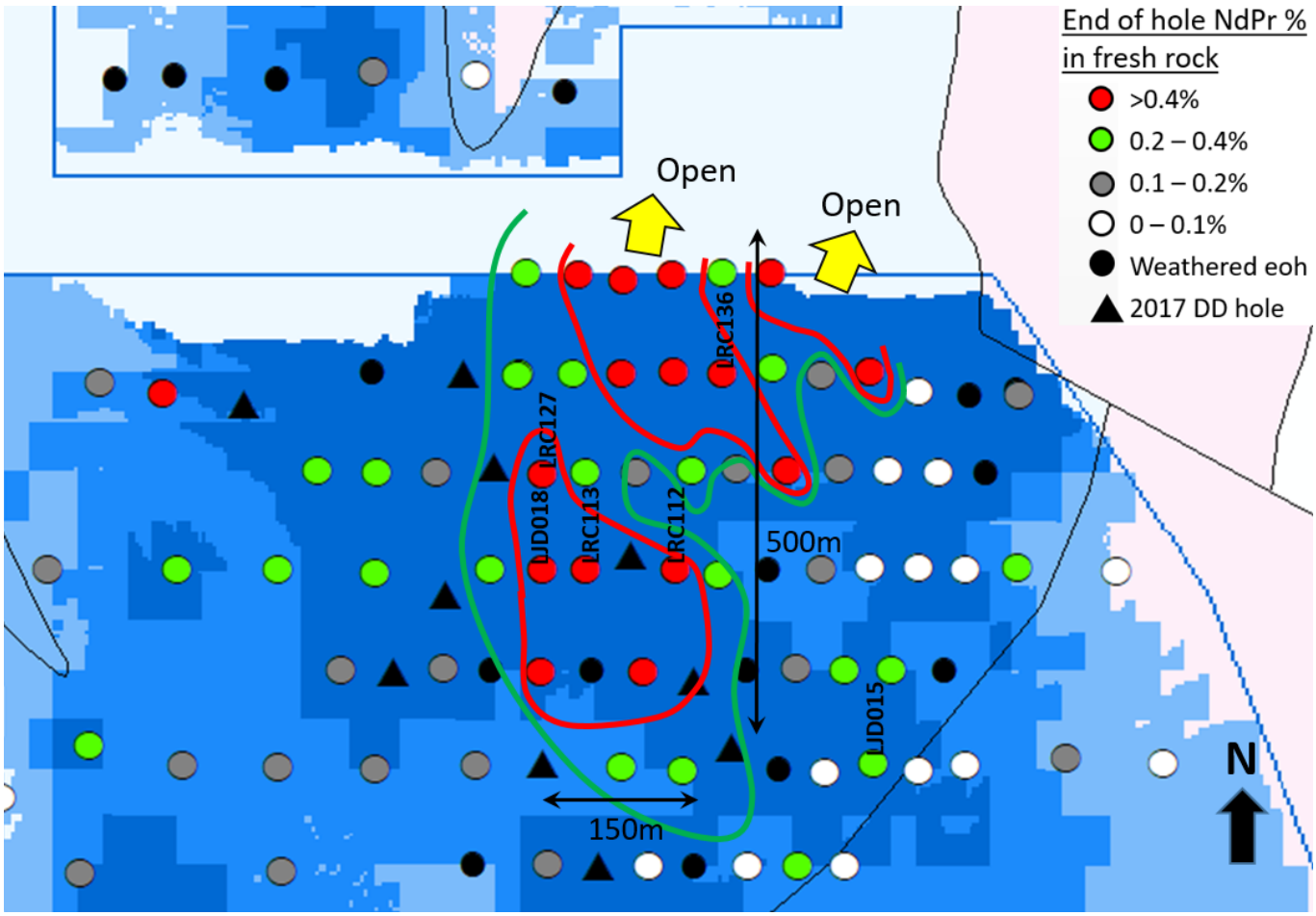


Above: Vertical east – west cross section 8,571,200N looking north demonstrating the continuity of the high grade weathered zone mineralisation from surface. Diamond hole LJD022 is a twin to LRC057 as shown.

Fresh rock exploration target

The infill RC drilling completed in 2019 over a portion of the current Mineral Resource estimate area was predominantly designed to test the high grade near surface weathered zone mineralisation with shallow vertical holes. Drill holes were however continued for several metres past the base of weathering so as to provide an initial test of the underlying fresh bedrock.

A significant and well defined high grade fresh rock exploration target is identified by this drilling immediately beneath the weathered zone mineralisation. Infill drill holes within a 500m x 150 metre area all contain high NdPr grades within fresh rock at the end of hole (see figure following).



Above: Plan showing location of zone of high grade fresh rock mineralisation beneath the weathered zone defined by 2019 infill drilling. The zone has a strike length of 500m and remains open to the north

Fresh rock intersections to end of hole returned from the 2019 RC and diamond drilling programmes include the following highlights:

Drill hole	**Intersection***
LRC136:	**10 metres** at **4.61% REO** including **0.84% NdPr** from 12 metres to end of hole
LRC113:	**5 metres** at **4.94% REO** including **0.98% NdPr** from 22 metres to end of hole
LJD015:	**5.45 metres** at **4.23% REO** including **0.59% NdPr** from 24 metres to end of hole
LJD018:	**14.5 metres** at **3.22% REO** including **0.58% NdPr** from 22 metres to end of hole

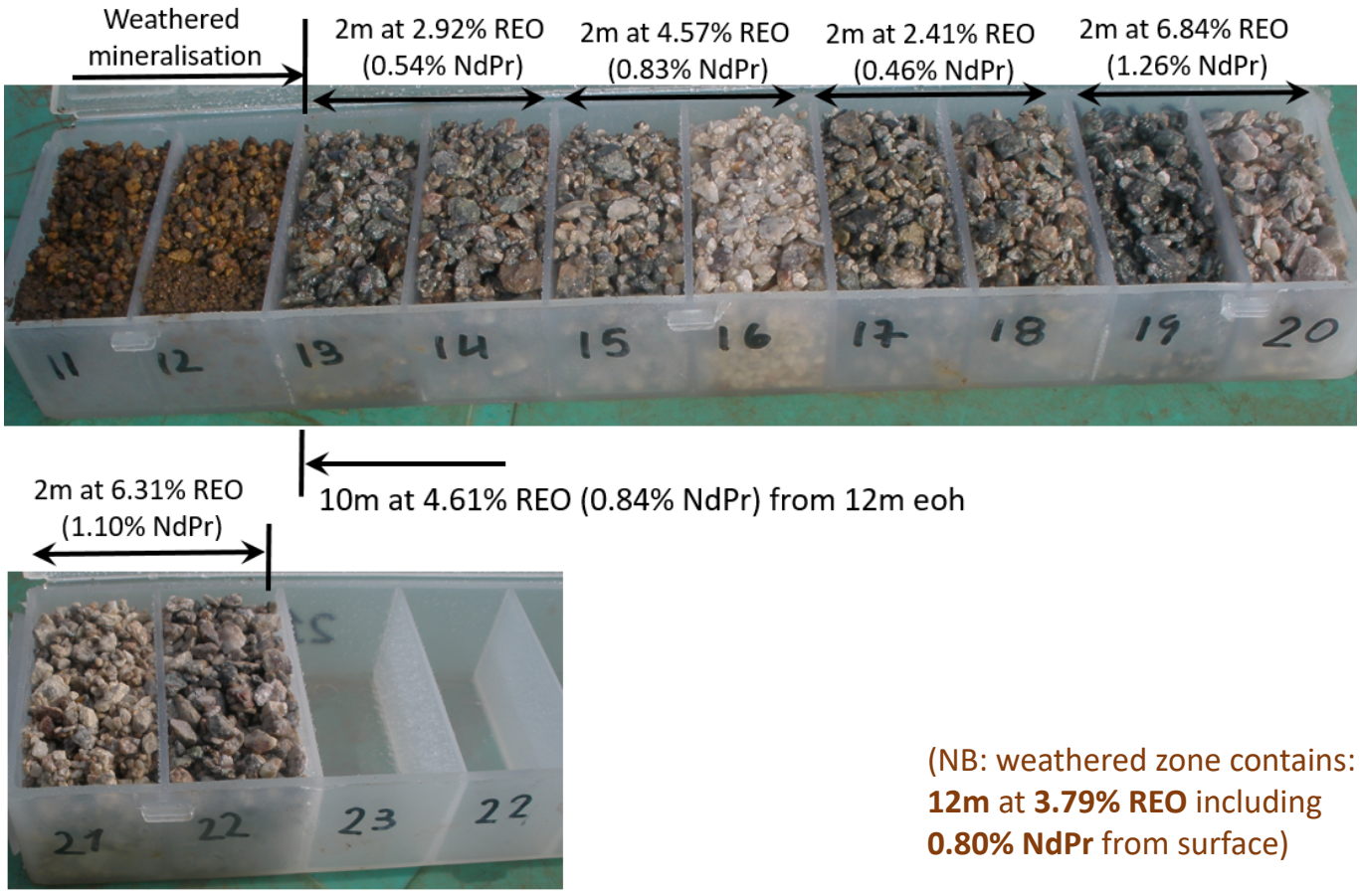
LRC127: **5 metres** at **3.46% REO** including **0.65% NdPr** from 25 metres to end of hole

LRC112: **5 metres** at **3.46% REO** including **0.75% NdPr** from 25 metres to end of hole

*Fresh rock only intersections >0.4% NdPr. Combined weathered+fresh rock intersections reported previously (RC) or within this report (diamond). See Table 2 for details of 2019 drilling fresh rock intersections >0.4% NdPr.

This fresh rock mineralised zone represents a significant exploration target in its own right and is not included in the Preliminary Feasibility studies.

Example photographs of the end of hole fresh rock intersections from one metre RC drill chips and diamond drill core follow. White to cream carbonatite contrasts against the angular clasts of grey and green fenite breccia (altered granitic country rocks).



(NB: weathered zone contains: **12m** at **3.79% REO** including **0.80% NdPr** from surface)

Above: one metre chip tray samples from the lower portion of RC hole LRC136. Note the sharp contact between weathered (brown) and fresh (grey-cream) rocks. The fresh rock contains high grade mineralisation to the end of hole at 22 metres: ***10m at 4.16% REO i****ncluding* ***0.84% NdPr from 12 metres*** *to end of hole*

*Above: Lower portion of diamond core hole **LJD018: 14.5m** at **3.22% REO i**ncluding **0.58% NdPr** to end of hole in fresh rock carbonatite (cream)-fenite (grey) breccia. Trays are 1m long. Core is PQ3 diameter (83mm).*

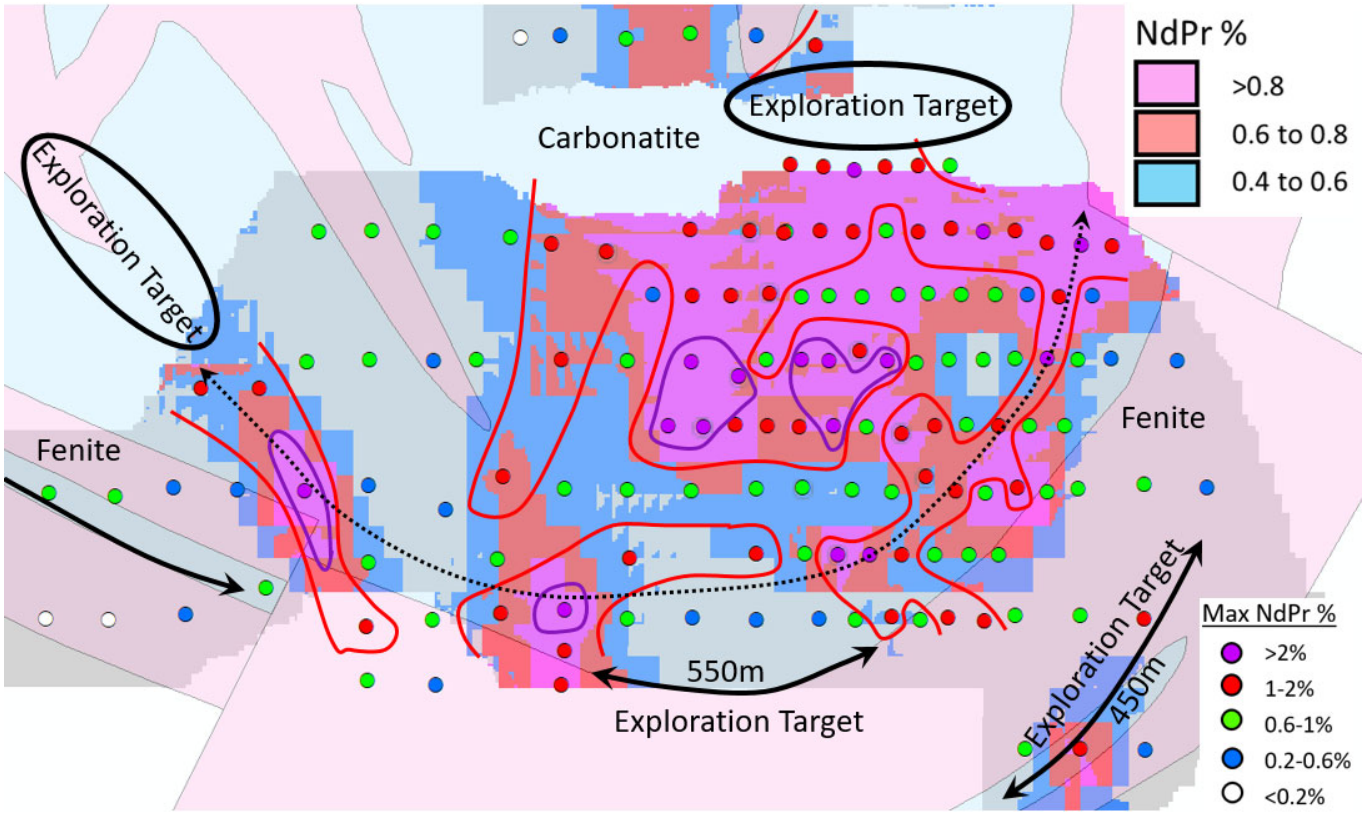
Given the vertical pipe-like form of the Longonjo Carbonatite, it is geologically likely that fresh rock hosted mineralisation could continue further beneath the current depth of shallow drilling. Deeper drilling is required to determine the depth extent and continuity of this fresh rock hosted mineralisation, which is currently only tested for 5 to 15 metres beneath the weathered zone.

The Company will commence metallurgical work programmes on samples of fresh rock mineralisation to evaluate the economic potential of this second style of NdPr mineralisation at Longonjo.

Additional exploration targets

With all drill results now received, a review of the geology and exploration potential at Longonjo has been completed.

In addition to the high grade fresh rock target discussed above, several other mineralised positions remain open along strike within the weathered zone and remain to be drill tested.



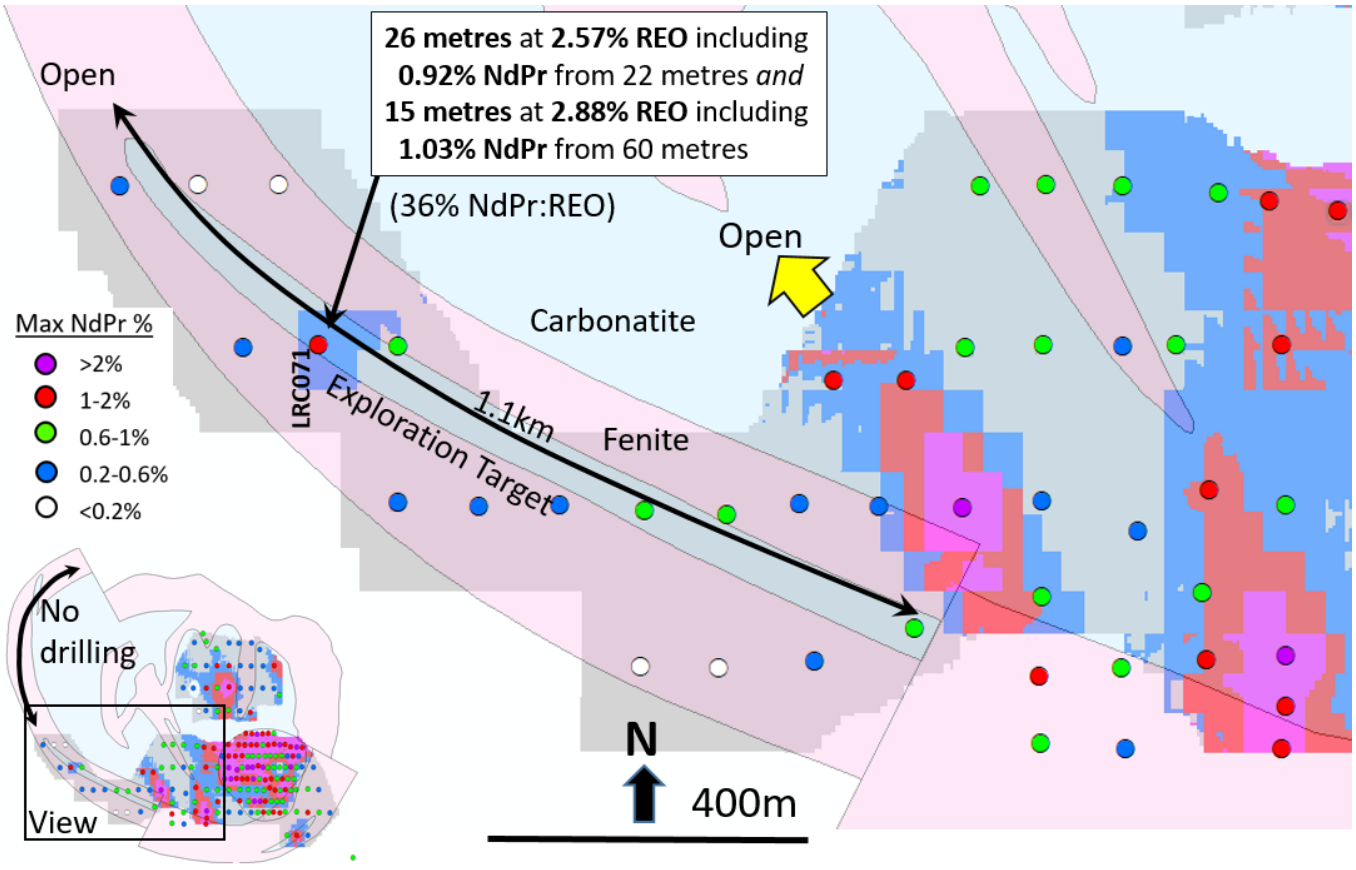
Above: Plan view of southern portion of the Longonjo Carbonatite. Average NdPr grades in saprolite (weathered insitu rock) only, February 2019 Mineral Resource block Model, and maximum downhole NdPr in drill holes.

This plan highlights zones of high grade NdPr mineralisation in red colours. Several open positions and prospective zones are identified, which represent high priority targets for

additional exploration drilling. Note also the arcuate high grade mineralised trends near the margin of the carbonatite, largely outside of the area of infill drilling. These arcuate trends could represent mineralised and potentially steeply dipping ring dyke structures extending over more than 2 kilometres, open to the north and west and only sparsely tested by the current drill pattern of shallow, wide spaced vertical holes.

The western margin of the Longonjo Carbonate in particular has seen little exploration to date (see inset figure below).

Previously reported drilling (LRC071 and surrounding holes) intersected high grade NdPr mineralisation within a deeply weathered, steeply dipping carbonatite ring dyke structure within fenite. The mineralisation has an unusually high NdPr:REO ratio with NdPr comprising 36% of total rare earths. The steeply dipping carbonatite is covered by soil and gravel to the north and is only sparsely tested by the current 100m x 200m vertical drill pattern.



Above: South western portion of the Longonjo Carbonatite, drill holes and NdPr mineralisation as per previous figure. High grade NdPr mineralisation hosted within a deeply weathered, steeply dipping carbonatite ring dyke is sparsely tested and may extend beneath soil and gravel cover to the north

Longonjo NdPr Project Development Strategy

Notwithstanding the significant potential to increase the size of the Longo NdPr deposit, the Company's strategy remains focussed on studies to fast track Longonjo into production as quickly as possible, based on the high grade, near surface weathered zone mineralisation. Development will take advantage of the modern road, rail, port and power infrastructure available on the project's doorstep.

Work is in progress on an update to the Longonjo **Mineral Resource estimate** that will include an amount of Indicated JORC Category mineralisation to support the Preliminary Feasibility Study scheduled for completion in September 2019.

In parallel with these development studies, the Company will continue technical work programmes to determine the potential for additional NdPr mineralisation at Longonjo that could add value to an initial operation.

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 Australasian 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 Australasian 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.

Table 1: Longonjo NdPr Project, diamond core drill intersections at least 4m thick and ≥0.20% NdPr lower grade cut. Intersections > 0.40% NdPr lower grade cut shown in bold italics

Hole ID	East	North	RL	Hole Depth (m)	From (m)	To (m)	Interval (m)	REO %	NdPr %
LJD011	524,426	8,570,706	1,567	12.4	***0***	***6***	***6***	***2.94***	***0.62***
LJD012	524,427	8,570,706	1,567	24.45 ***(incl.*** ***and***	0 ***0*** ***14*** 20	18 ***6*** ***18*** 24	18 ***6*** ***4*** 4	1.96 ***2.73*** ***2.87*** 2.41	0.42 ***0.60*** ***0.51)*** 0.43
LJD013	524,175	8,570,705	1,580	29.3 ***(incl.*** ***and***	0 ***0*** ***18***	29.3 ***16*** ***22***	29.3eoh ***16*** ***4***	3.14 ***3.86*** ***4.29***	0.67 ***0.83*** ***0.97)***
LJD014	523,797	8,570,500	1,586	35.49 ***(incl.***	0 8 18 ***18***	6 14 34 ***26***	6 6 16 ***8***	0.99 2.42 3.82 ***5.78***	0.21 0.61 0.73 ***1.12)***
LJD015	524,505	8,570,804	1,568	29.45 ***(incl.*** ***(incl.***	0 ***0*** 20 ***22***	16 ***12*** 29.45 ***29.45***	16 ***12*** 9.45eoh ***7.45eoh***	8.99 ***11.6*** 4.11 ***4.94***	1.42 ***1.82)*** 0.60 ***0.70)***
LJD016	524,222	8,570,902	1,584	40.35 ***(incl.*** ***and*** ***and***	0 ***0*** ***16*** ***24***	40.35 ***10*** ***22*** ***28***	40.35eoh ***10*** ***6*** ***4***	3.63 ***9.13*** ***3.64*** ***2.30***	0.68 ***1.53*** ***0.74*** ***0.68)***
LJD017	523,962	8,570,903	1,586	26.8 ***(incl.*** ***and***	0 ***4*** ***16***	24 ***10*** ***24***	24 ***6*** ***8***	2.71 ***3.83*** ***2.78***	0.62 ***0.82*** ***0.73)***
LJD018	524,166	8,571,001	1,592	36.5	***0***	***36.5***	***36.5eoh***	***3.21***	***0.66***
LJD019	523,997	8,571,000	1,596	25.37 ***(incl.*** ***and***	0 ***0*** ***12***	25.37 ***8*** ***16***	25.37eoh ***8*** ***4***	3.05 ***6.03*** ***2.67***	0.64 ***1.20*** ***0.58)***
LJD020	524,062	8,571,103	1,605	21.73	0	21.73	21.73eoh	3.74	0.70

Hole ID	East	North	RL	Hole Depth (m)	From (m)	To (m)	Interval (m)	REO %	NdPr %
				(incl.	***0***	***20***	***20***	***3.93***	***0.74)***
LJD021	524,262	8,571,099	1,597	12.24 ***(incl.***	0 ***0***	12.24 ***8***	12.24eoh ***8***	2.89 ***3.69***	0.60 ***0.78)***
LJD022	524,196	8,571,201	1,610	45.74 ***(incl.*** ***and***	0 ***0*** ***24***	44 ***22*** ***42***	44 ***22*** ***18***	3.94 ***5.40*** ***2.70***	0.83 ***1.09*** ***0.63)***
LJD023	524,248	8,571,302	1,619	23.52	***0***	***23.52***	***23.52eoh***	***4.49***	***0.95)***
LJD024	524,349	8,570,995	1,585	33.93 ***(incl.*** ***and***	0 ***0*** ***22***	32 ***12*** ***32***	32 ***12*** ***10***	2.76 ***3.67*** ***2.92***	0.61 ***0.80*** ***0.62)***
LJD025	524,551	8,571,001	1,577	27.84	***0***	***12***	***12***	***6.00***	***1.26***
LJD026	524,570	8,571,104	1,587	28.35	***0*** ***16***	***12*** ***20***	***12*** ***4***	***5.06*** ***8.43***	***0.94*** ***2.13***
LJD027	524,650	8,571,183	1,597	28 ***(incl.***	0 ***0*** 14	12 ***6*** 24	12 ***6*** 10	2.11 ***2.39*** 3.21	0.39 ***0.46)*** 0.62

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 PQ3 diamond core. Co-ordinate system is WGS84 UTM Zone 33 south, rounded to nearest metre. Assays of 2m composite quarter core samples by peroxide fusion and ICP analysis, Nagrom laboratories Perth, Western Australia. Maximum of 2m internal subgrade included.

Table 2: Longonjo NdPr Project, **fresh rock only,** RC and diamond core drill intersections at least 4m thick and ≥0.20% NdPr lower grade cut.

(Fresh rock intersections below previously reported contained within wider combined weathered+fresh rock mineralised intersections in 2019 ASX announcements for RC and within this report for diamond drilling).

Hole ID	East	North	RL	Hole Depth (m)	From (m)	To (m)	Interval (m)	REO %	NdPr %
LRC112	524,303	8,571,001	1,587	30	25	30	5eoh	3.46	0.75
LRC113	524,212	8,571,001	1,591	27	22	27	5eoh	4.94	0.98
LRC127	524169	8,571,099	1,600	30	25	30	5eoh	3.46	0.65
LRC136	524,351	8,571,200	1,603	22	12	22	10eoh	4.61	0.84
LJD015	524,505	8,570,804	1,568	29.45	24	29.45	5.45eoh	4.23	0.59
LJD018	524,166	8,571,001	1,592	36.5	22	36.5	14.5eoh	3.22	0.58

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. Drilling is vertical reverse circulation (RC) or PQ3 diamond (LJD). Co-ordinate system is WGS84 UTM Zone 33 south. Assays of 2m composite RC and diamond PQ3 quarter core samples from vertical drilling by peroxide fusion and ICP analysis, Nagrom laboratories Perth, Western Australia. No internal subgrade included.

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.*	• Samples for LRC prefix holes 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. LJD prefix holes are vertical PQ3 (83mm diameter) diamond core, also sampled to 2m quarter core sample lengths. 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. • RC samples are riffle split using a 3 tier splitter which is cleaned between every sample • Diamond core recoveries and depths are validated jointly by the onsite geologist and driller every core run
	• *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 (LRC holes) 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 • Vertical diamond holes were used to obtain 2m quarter core sample lengths for assay • 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*	• 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. A 131mm diameter blade RC bit was used in some holes in the weathered zone, generally for around 10 metres. • Triple tube diamond core drilling of PQ3 diameter

Criteria	JORC Code explanation	Commentary
	of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).	(83mm) was used for LJD prefix holes
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 RC sample from the rig was weighed and recorded for moisture content. The weigh scale was calibrated frequently. • Diamond core recovery was recorded and monitored on site by measuring the drilled rod length and the physical length of core recovered.
	• *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 • Diamond core recovery was maximised by the use of wireline triple tube drilling technique, by drilling short runs of usually a metre or less in soft ground, and by careful monitoring by the onsite geologist and communication with the driller.
	• *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 intervals 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 RC holes have been twinned by diamond core drilling to investigate any relationship and no overall bias has been identified between the two drilling techniques.
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. • Diamond core was geologically and geotechnically logged by specially trained geologists for the entire length of the holes to industry standards and guidelines.
	• *Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.*	• All logging was quantitative. All RC chip and diamond core 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.*	• Diamond core was sampled as quarter core for assay. Samples were cut in the soft weathered zone and sawn where fresh rock
	• *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 RC sample, splitting to a representative 1kg sample, pulverising to 85% passing 75 micron and splitting to a 100g sample pulp.

Criteria	JORC Code explanation	Commentary
		• The full 2m diamond quarter core sample was crushed and split 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 sampling.*	• 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 are closely monitored and indicate no significant sampling variance
	• *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 is 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 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.*	• 16 diamond core holes were completed as twins against RC drill holes and validate the mineralisation intersected by the RC drilling.
	• *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 has 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
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.*	• All sample locations were surveyed using a hand held GPS, accurate to within 3m prior to drilling. Hole collars have subsequently all been surveyed after drilling by a professional surveyor using an RTK DGPS at the end of each drill 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.
	• *Quality and adequacy of topographic control.*	• Topography control is by a high precision satellite based topographic survey. The survey utilised an RTK DGPS survey of ground control points to ensure accuracy of georectification and precision

		of the satellite DTM survey. Drill holes are surveyed using an accurate RTK DGPS survey and collars fitted to the satellite topography surface using the surveyed East and North co-ordinates for Mineral Resource estimation purposes.
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 infill area drill hole spacing is 50m x 100m, otherwise 100m x 100m or 100m x 200m. Samples are 2m down hole. • Diamond twin holes are sited within 3 metres of the RC hole • Exploration and resource definition drill results are being reported. Data spacing is considered sufficient to establish the continuity of NdPr mineralisation to at least an Indicated category in the area of infill and inferred in areas defined by wider spaced drilling for future Mineral Resource estimation studies. • 1m RC drill samples were combined in the field after riffle splitting for a final 2m composite sample for submission to laboratory. Diamond quarter core samples were collected over 2m continuous intervals. • Two metre samples are considered adequate for the resource estimation, variography studies and potential mining techniques for this style of disseminated 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. • Mineralised carbonatite ring dykes, which could have a more steeply dipping morphology beneath the predominantly horizontal weathered zone, have been identified but are restricted to the periphery of the carbonatite. These structures will be tested in the fresh rock by angled drill holes orthogonal to strike. • 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 Tables 1 to 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.* • *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.*	• 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. • Intersections are reported as length weighted averages above the specified cut-off grade. Length weighted grade averages for REO and NdPr are presented • Intercepts may include a maximum of 2m internal dilution. • 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.* • *If it is not known and only the down hole*	• 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. • Drill hole intercepts reported can be considered true thicknesses

	lengths are reported, there should be a clear statement to this effect (e.g. 'down hole length, true width not known').	

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 section 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 February 2019 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 from a 16 hole diamond drilling programme testing the shallow weathered zone mineralisation at Longonjo. A revised Mineral Resource estimate will be completed to include these infill drill results and a Preliminary Feasibility Study is in pores, scheduled for completion in September 2019. • A series of high quality exploration and resource extension targets detailed in this report will be drill tested by additional step out and deeper

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