



## Quarterly Activities Report For the Period Ended 30 June 2020

Pensana Rare Earths Plc (LSE: PRE; ASX: PM8) (the Company or Pensana) is pleased to present its quarterly activities report for the period ended 30 June 2020.

### June Quarter Highlights

- **Mining Title received for the Longonjo Project in Angola**
- **Further equity investment of A\$7.25m by the Angolan Sovereign Wealth Fund**
- **Grant of 7,456km<sup>2</sup> Coola exploration licence adjacent to Longonjo with confirmed rare earth mineralisation and several additional targets**
- **High grade drill results received from the weathered zone from surface at Longonjo support strategy to extend mine life beyond the current PFS 9 year pit design**
- **High grade drill intersections in the fresh rock immediately beneath the weathered zone add a new dimension to the project.**
- **Metallurgical programmes progressing well with operation of the beneficiation pilot plant set to commence in August 2020.**
- **Optimisation of process parameters to produce an NdPr – rich rare earth carbonate is advancing positively, and results will feed into the BFS.**
- **Bankable Feasibility technical studies on track for completion mid October 2020**

### Post Quarter Highlights

- **Admission to trading on the London Stock Exchange**
- **Heads of Agreement signed with China Great Wall Industry Corporation (“CGWIC”)**
- **Appointment of Paradigm Project Management**

### **Chief Executive Officer Tim George Commented:**

“This past quarter has been truly transformational for Pensana and has seen us take huge strides towards our goal of developing the first major rare earths mine in over a decade. Our listing on the London Stock Exchange was a major milestone and subsequent share price movement indicates the market confidence in Pensana. The reception of our mining license and approval from the President of Angola is a testament to the open environment of Angola and the significant social and economic benefits Longonjo will provide.

“As the World looks to recover from the COVID-19 pandemic, it is clear that the renewable energy sector will play a significant role in the rebalancing of the global economy. The US\$16 trillion post COVID stimulus programmes are set to transform the sector and drive significant demand for critical rare earth magnet metals. Longonjo, will play a key role in supply this demand and ensuring that the growth of offshore wind and electric vehicles remains on track.”

“I must take this time to thank our staff and partners for their commitment during the unprecedented uncertainty the globe has seen with the COVID-19 pandemic, ensuring that we remain on track to begin construction in early 2021.”

### **Mining Title approved for Longonjo**

On 27 April 2020, the Company announced the approval for the exploitation of the Longonjo Rare Earth Project in Angola. The mining title is renewable for up to 35 years, and the key fiscal terms included in the Mining Investment Contract are as follows:

- 2% royalty on revenue;
- 20% national tax and 5% municipal tax on revenue following an initial two-year tax holiday;
- Custom duties exemption on imported equipment;
- Full 5 year capital repayment allowance and
- Dividend tax exemption for 3 years

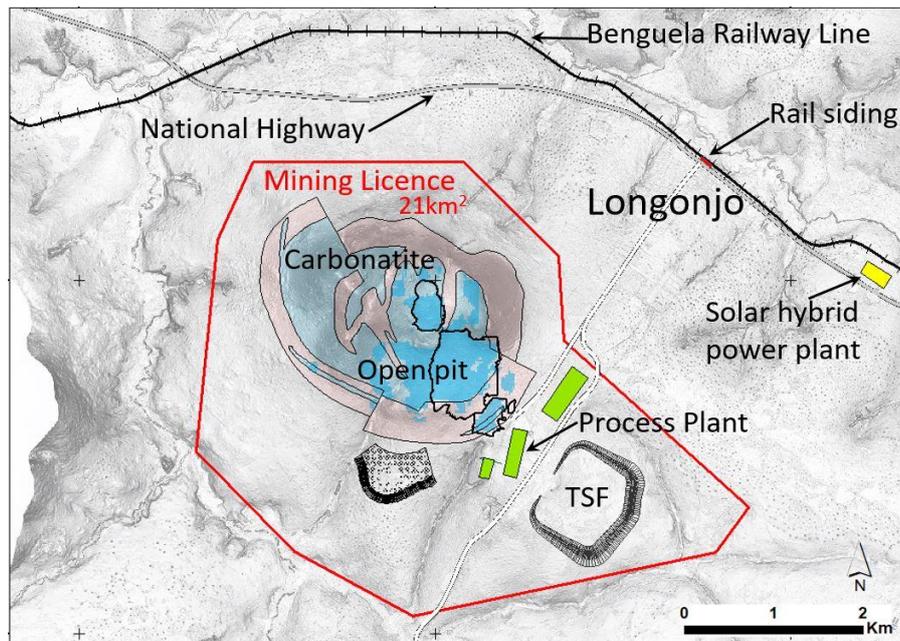


Figure 1: Longonjo licence granted to cover areas needed for mining infrastructure and the prospective carbonatite geology

### DFS Drilling Programme

A 195 hole, 7,987 metre reverse circulation (RC) infill and extension drilling programme was successfully completed in March 2020 in support of the Longonjo Bankable Feasibility Study (BFS) now in progress. The drilling is designed to provide detailed data to support an upgrade of the current Mineral Resource estimate to higher categories to support an extended mine life for the BFS.

See ASX announcement 15 November 2019 for Mineral Resource estimate details. All material assumptions and technical parameters underpinning the estimates continue to apply and have not materially changed.

Drilling also tested several potential extensions to known mineralisation.

Two batches of assay results were received from 52 holes or 2,939 metres (Figure 2) during or just after quarter end from three areas outside the current PFS 9 year open pit design (ASX 15 November 2019).

High grade intersections returned from the infill drilling support the potential to convert substantial amounts of Inferred mineralisation to Indicated, thereby allowing its inclusion in an expanded mine plan for the BFS. Infill drilling in the Central area also demonstrated the continuity of the high grade weathered zone mineralisation, supporting the potential to convert much of the current Indicated category mineralisation to Measured in this important area of proposed first mining.

Drill results are further detailed in ASX and LSE announcements of 6 April and 13 July 2020.

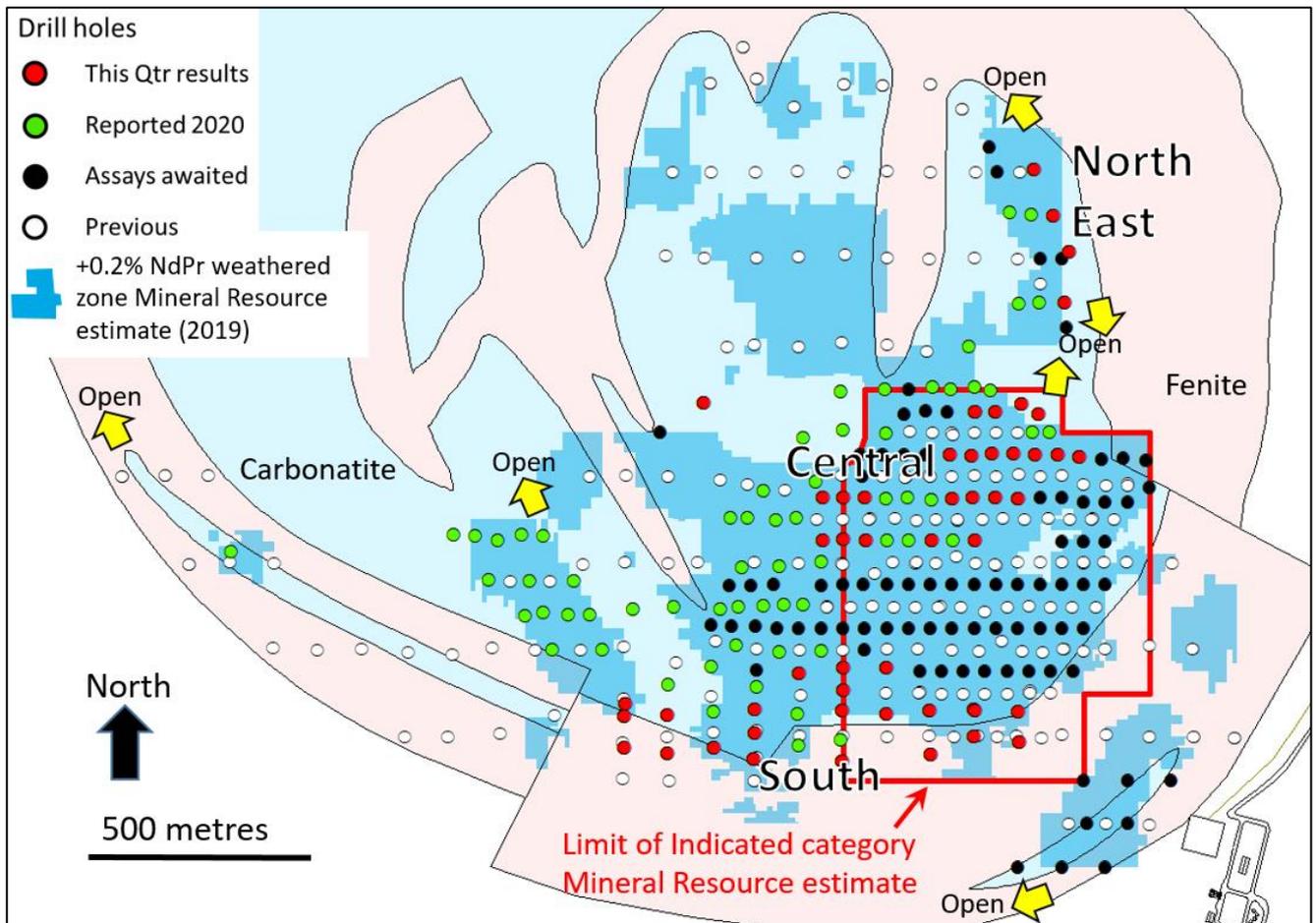


Figure 2: Plan view of the location of new assay results (red) reported during or just after the current quarter with new programme results reported first quarter 2020 (green) and completed drill holes with results still awaited (black) over the +0.2% NdPr November 2019 Mineral Resource estimate block model for the weathered mineralisation. The current extent of the Indicated category Mineral Resource estimate is highlighted. Assays from a further 80 drill holes (black) are expected shortly.

High grade intersections were returned from each of the three areas (Central, South and North East, Figure 2). Results extend the weathered mineralisation in some areas as well as demonstrating its continuity.

### **Central Area**

Infill drilling at a 50m x 50m spacing in the area of the initial mine plan in the PFS (Figure 3) has confirmed +6% rare earth oxide (REO) in the surface weathered zone mineralisation. This area of mineralisation remains open to the north and east.

Intersection highlights from the weathered zone in this Central area returned just after Quarter end included:

<b><u>Drill hole</u></b>	<b><u>Intersection*</u></b>
<b>LRC265:</b>	<b>16 metres at 6.03% REO including 1.25% NdPr from surface</b>

- LRC267:** 16 metres at 6.08% REO including 1.16% NdPr from surface
- LRC272:** 18 metres at 5.57% REO including 1.09% NdPr from surface
- LRC276:** 18 metres at 6.25% REO including 1.18% NdPr from surface
- LRC283:** 16 metres at 5.14% REO including 1.02% NdPr from surface

\*NdPr = neodymium – praseodymium oxide. REO = total rare earth oxides. Intersections reported at a +0.4% NdPr lower grade cut off. . See LSE / ASX of 13 July 2020 for details of all new results, including wider intersections at a +0.2% NdPr cut.

The Company expects to upgrade the mineral resource to Measured in this area for inclusion in the BFS.

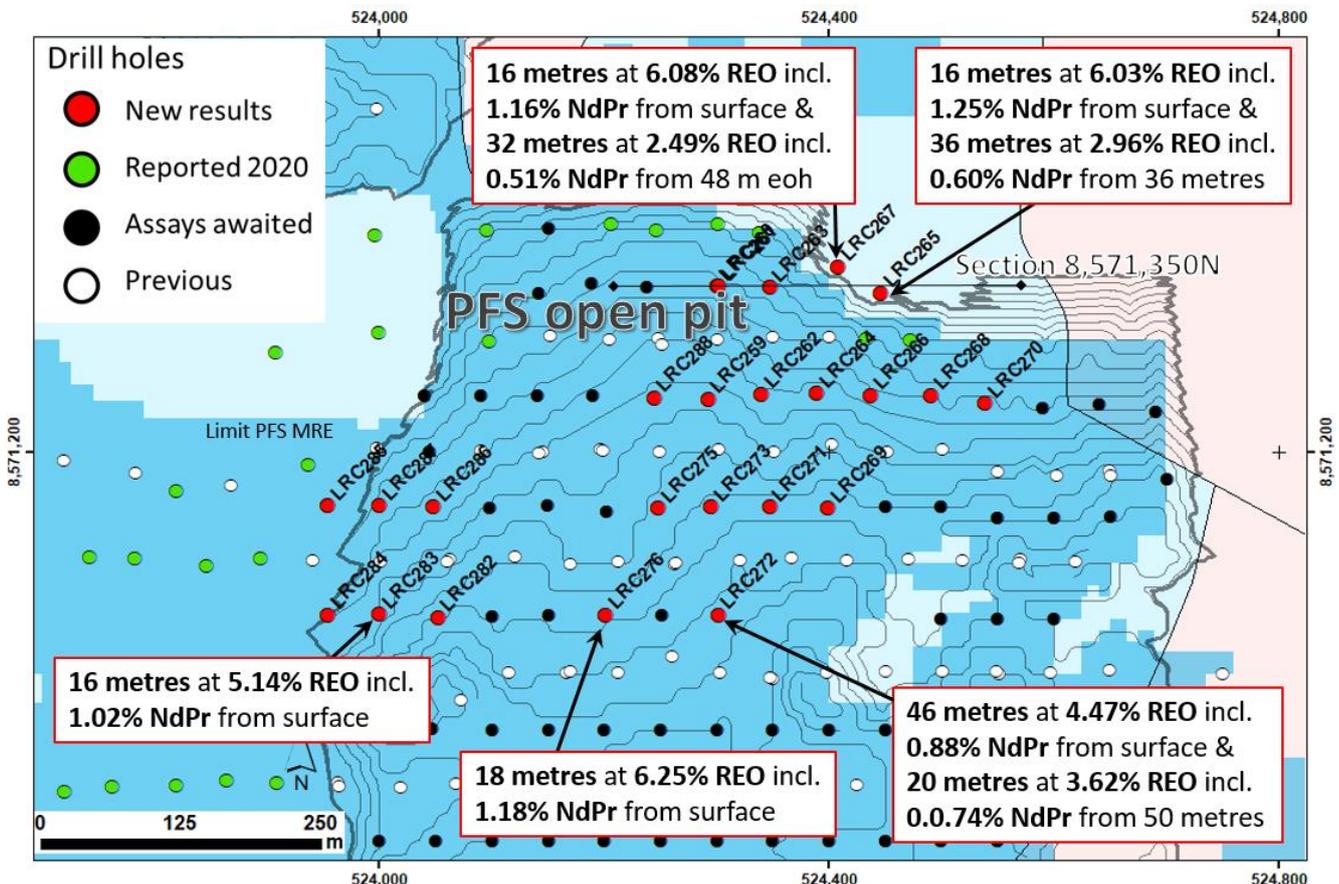


Figure 3: Location of new drilling (green, red and black) in the Central area and intersection highlights received this Quarter over the +0.2% NdPr November 2019 Mineral Resource estimate block model (blue) for the weathered mineralisation and the 9 year PFS open pit (see Figure 2 for location).

Some of the vertical drill holes in the Central area were extended to eighty metres depth to provide a first systematic test of the potential for **fresh rock mineralisation** immediately beneath the weathered zone. Assay results received indicate wide intersections of 2.5% to 3% REO (Figure 4). These grades are very encouraging and add a second dimension to the Longonjo Project beyond the

initial mine life, which is based on weathered mineralisation only. The fresh rock mineralisation remains open below the 80 metre drill depth.

Wide intersections from the unweathered carbonatite breccia included:

**Drill hole**    **Intersection\***

**LRC266:**    **26 metres at 2.83% REO** including **0.61% NdPr** from surface and **24 metres at 3.28% REO** including **0.70% NdPr** from 54 metres

**LRC268:**    **30 metres at 4.23% REO** including **0.86% NdPr** from surface and **18 metres at 2.80% REO** including **0.63% NdPr** from 62 metres to end of hole

**LRC270:**    **30 metres at 3.48% REO** including **0.70% NdPr** from surface and **24 metres at 2.88% REO** including **0.58% NdPr** from 32 metres

**LRC272:**    **20 metres at 3.62% REO** including **0.74% NdPr** from 50 metres

\* Intersections reported at a +0.4% NdPr lower grade cut off. See LSE / ASX of 13 July 2020 for details of all new results, including wider intersections at a +0.2% NdPr cut.

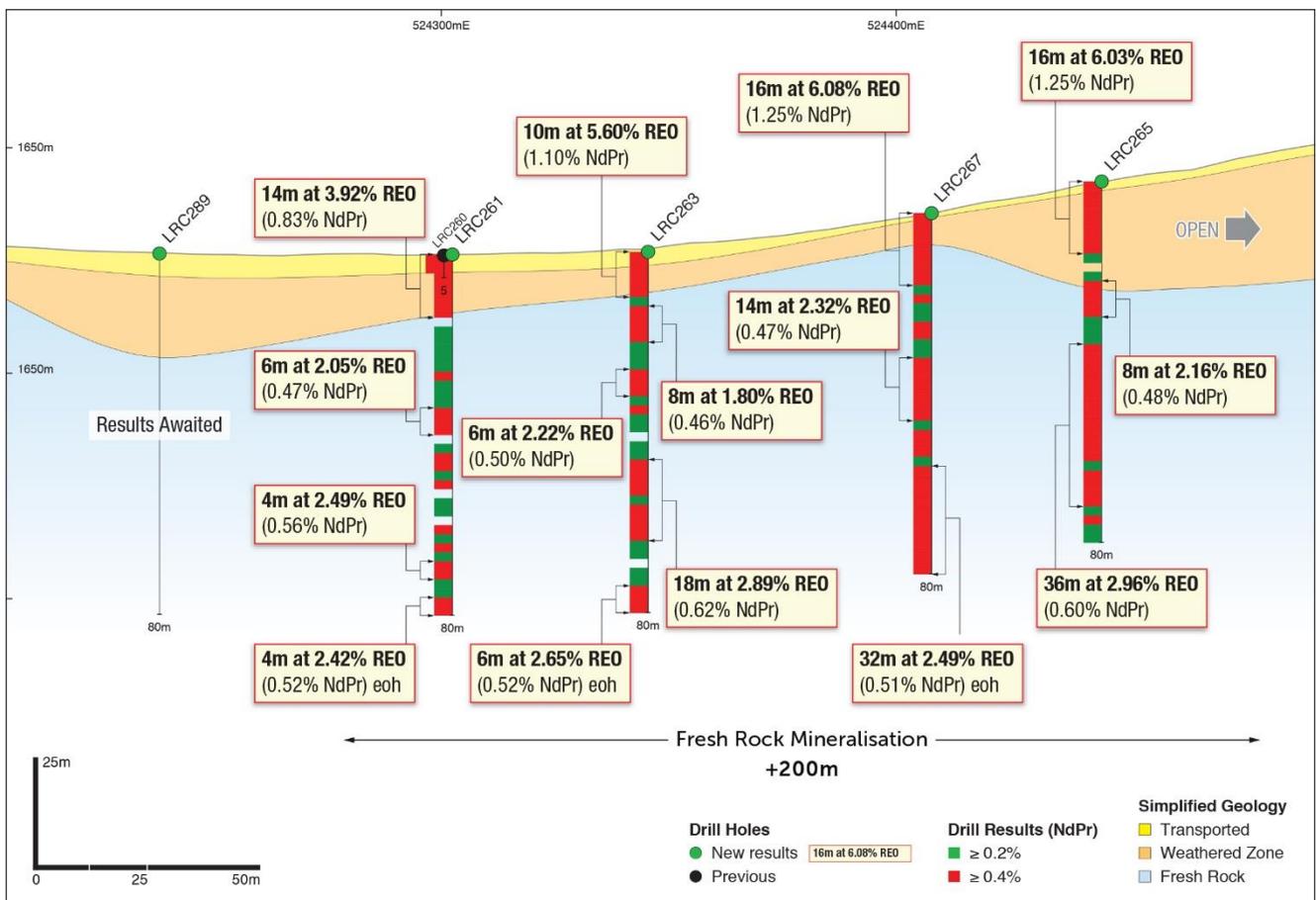


Figure 4: Vertical east – west section 8,571,350mN looking north. New results prove the continuity of high grade weathered mineralisation from surface that remains open to the north and east. Consistent fresh rock mineralisation immediately beneath the weathered zone also remains open with depth over a 200 metre width with further results pending.

## Southern Margin

Mineralised carbonate dykes up to 25 metres wide on the southern margin of the carbonatite body were tested with angled RC drilling. High grade intersections were returned from both the weathered zone and fresh rock immediately beneath including:

<u>Drill hole</u>	<u>Intersection</u>
<b>LRC232:</b>	<b>14 metres at 5.63% REO including 0.96% NdPr from 56 metres</b>
<b>LRC233:</b>	<b>8 metres at 7.73% REO including 1.32% NdPr from 10 metres</b>
<b>LRC248:</b>	<b>6 metres at 5.32% REO including 1.10% NdPr from 24 metres</b>
<b>LRC254:</b>	<b>12 metres at 5.74% REO including 1.14% NdPr from surface and 20 metres at 5.76% REO including 1.09% NdPr from 16 metres</b>
<b>LRC258:</b>	<b>26 metres at 4.40% REO including 0.96% NdPr from surface</b>

Intersections reported at a +0.4% NdPr lower grade cut off. See LSE / ASX of 6 April and 13 July 2020 for details of all new results, including wider intersections at a +0.2% NdPr cut.

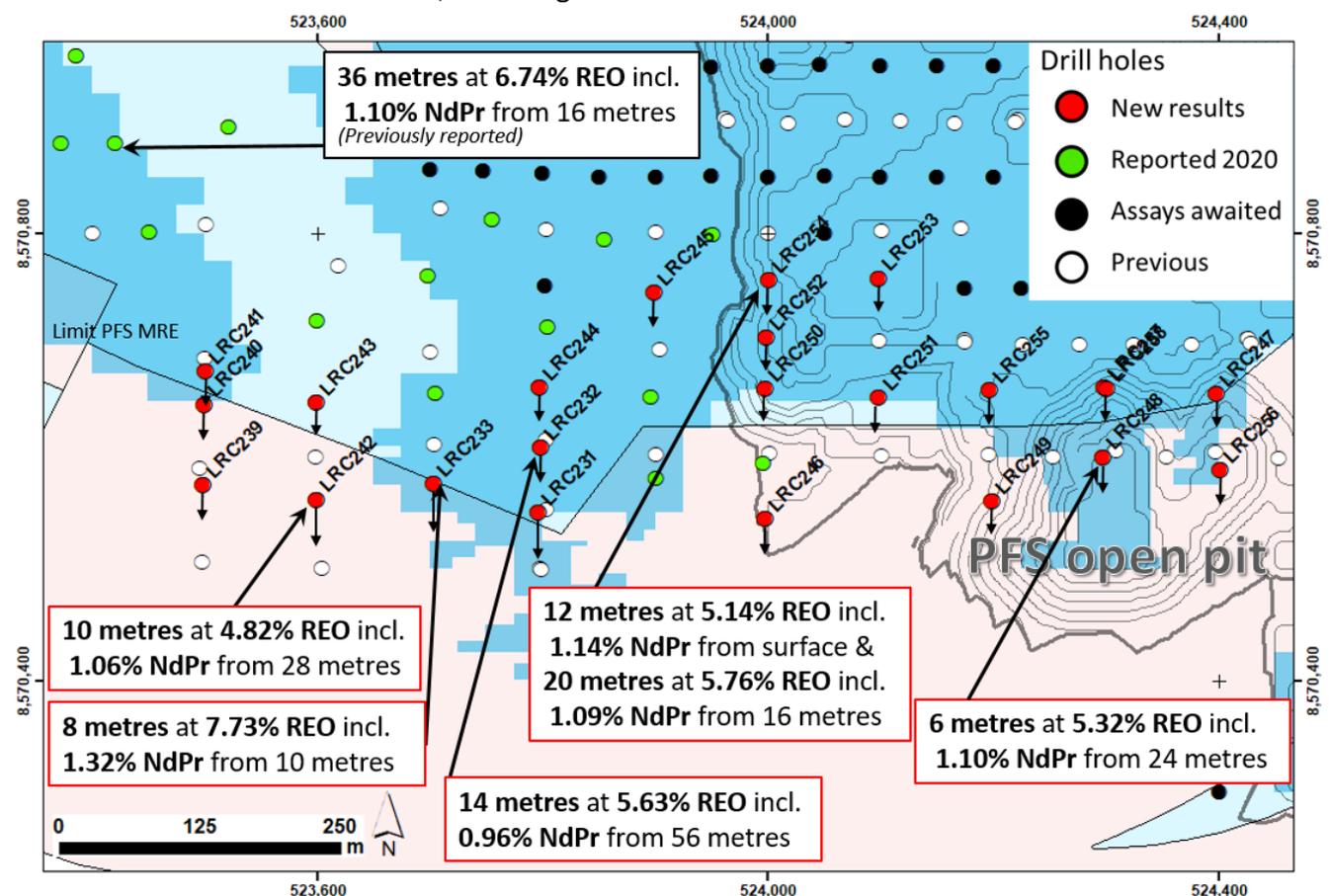


Figure 5: Location of new angled drilling (green and red with arrow) in the Southern Margin area and intersection highlights over the +0.2% NdPr Mineral Resource estimate block model (blue) for the weathered mineralisation and the 9 year PFS open pit (see Figure 2 for location).

## North East Margin

Angled drilling along the north eastern margin of the carbonatite has defined a consistent zone of deep weathering containing NdPr enriched rare earth mineralisation. Wide intersections from the -60° angled holes at a 0.4% NdPr lower grade cut include:

<u>Drill hole</u>	<u>Intersection</u>
<b>LRC234:</b>	<b>34 metres at 2.57% REO</b> including <b>0.79% NdPr</b> from surface, <b>14 metres at 1.63% REO</b> including <b>0.48% NdPr</b> from 40 metres and <b>6 metres at 2.00% REO</b> including <b>0.62% NdPr</b> from 64 metres to end of hole
<b>LRC235:</b>	<b>26 metres at 1.88% REO</b> including <b>0.53% NdPr</b> from surface and <b>4 metres at 1.92% REO</b> including <b>0.50% NdPr</b> from 40 metres and <b>6 metres at 2.06% REO</b> including <b>0.65% NdPr</b> from 62 metres to end of hole
<b>LRC237:</b>	<b>30 metres at 2.12% REO</b> including <b>0.57% NdPr</b> from 4 metres and <b>28 metres at 1.92% REO</b> including <b>0.47% NdPr</b> from 44 metres and <b>12 metres at 1.56% REO</b> including <b>0.48% NdPr</b> from 80 metres

Intersections reported at a +0.4% NdPr lower grade cut off. See ASX of 6 April 2020 for details of all new results received to date from the North East Margin area, including wider intersections at a +0.2% NdPr cut..

The 400m long zone of deeply weathered carbonatite hosted mineralisation is up to 200 metres wide along the contact with the fenite (Figure 6). NdPr to REO ratios are higher than usual with NdPr, the projects main value driver, comprising over 30% of total REO compared to the more typical 21%. Mineralisation remains open to the north and south and further results are awaited.

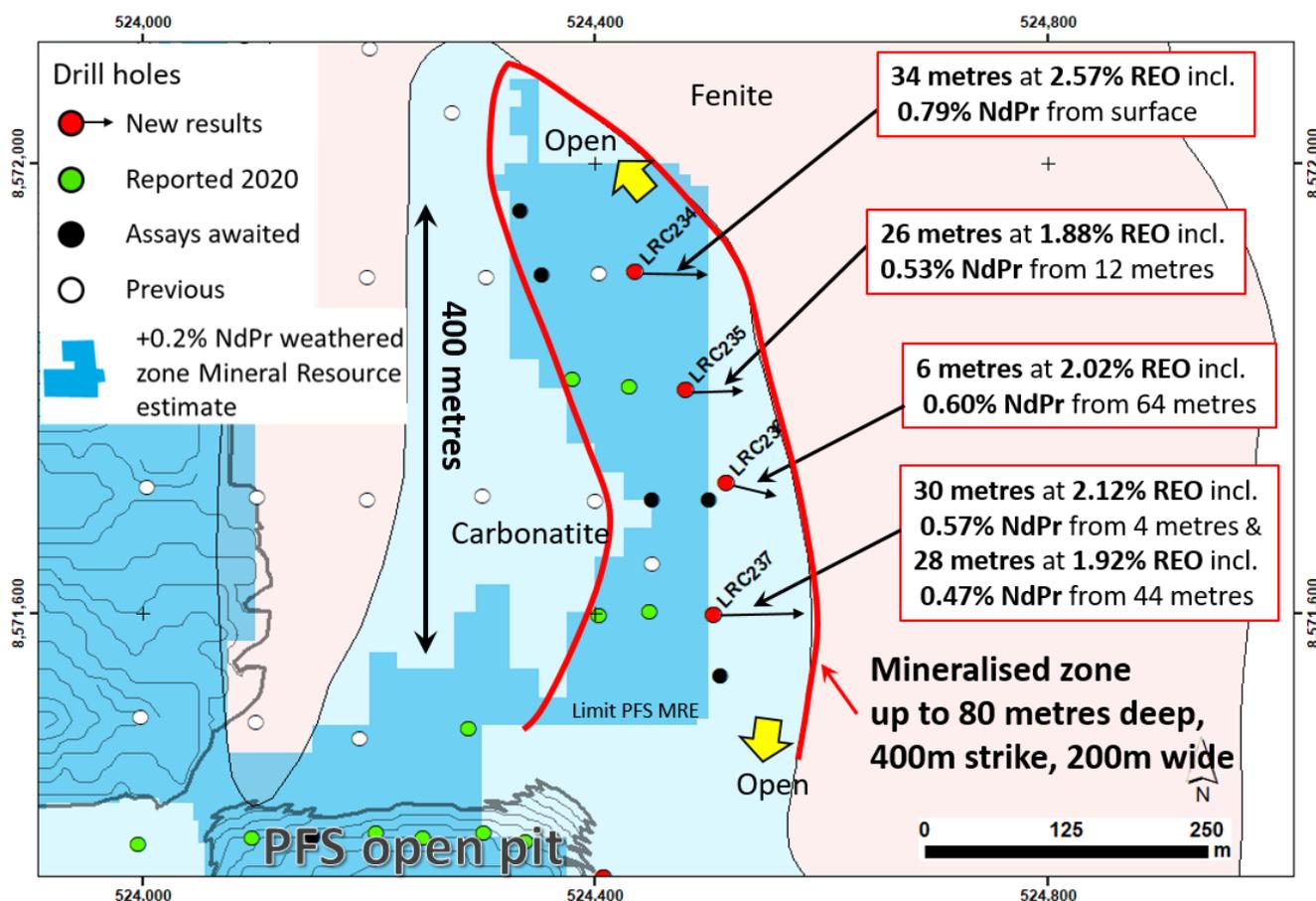


Figure 6: Location of new drilling (green, red and black) and intersection highlights over the +0.2% NdPr Mineral Resource estimate block model (blue) for the weathered mineralisation and the 9 year PFS open pit (see Figure 2 for location).

The North East Margin area is currently Inferred Mineral Resource and was not included in the 9 year PFS open pit design.

The infill drilling has demonstrated the continuity of the weathered zone mineralisation in all areas where results have been received to date.

The upgrade of mineralisation from these areas of currently Inferred resource and inclusion into the BFS mine plan is expected to support an extended mine life at Longonjo.

Final assay results from the remaining 80 drill holes are expected shortly and the new Mineral Resource estimate to be completed by SRK Consulting is on schedule for completion in September 2020.

### Pilot Plant

Construction of the pilot plant at ALS Metallurgy in Perth is nearing completion and operations are expected to commence in August.

The flotation pilot plant will be fed with the +60 tonnes of near surface weathered mineralisation that was shipped from Longonjo site via the Benguela railway and Lobito port to Fremantle.

The samples have been dried, crushed and blended in preparation for the pilot plant operations.

### Downstream Processing

In the previous quarter, the Company announced a commitment to study the further downstream processing of the high grade concentrate to be produced at Longonjo. Whilst the PFS strategy was to process onsite and ship a high grade concentrate, the new study, which forms part of the BFS, is investigating the feasibility of the downstream processing of concentrate produced by the flotation plant into a purified NdPr-rich rare earth carbonate for export. This would enable the Company to add increased value in Angola. Preliminary discussions with potential customers and major trading houses have indicated that customers in China, Japan, Korea, Germany and the UK may be interested in importing a high grade carbonate product from the Company.

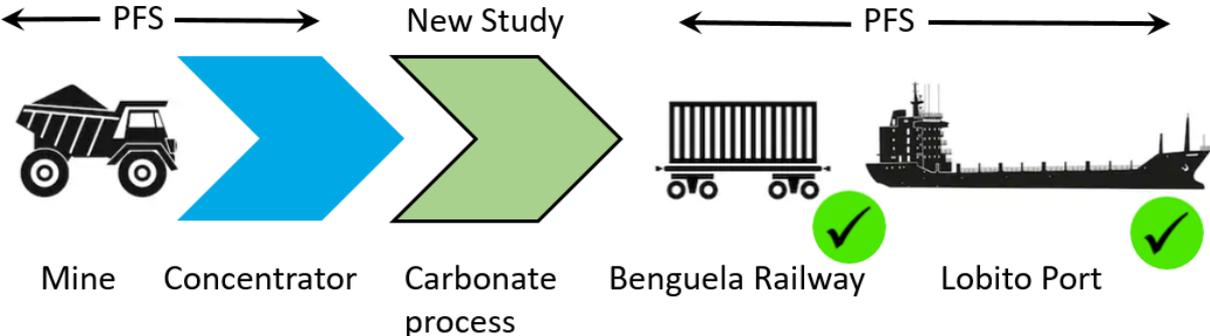


Figure 7: Pensana is investigating the feasibility of the further downstream processing of Longonjo’s high grade concentrate to produce an NdPr –rich rare earth carbonate, which could be incorporated into the BFS Study

During the quarter the Company continued with testwork to optimise the processing parameters to produce a carbonate. Results will feed into the BFS engineering and cost study once completed.

### Coola Project

In early May the Company announced that its application for a new exploration title adjacent to its Longonjo Project in Angola was granted.

The project is prospective for rare earth mineralisation and contains several immediate priority targets. The Coola Project Prospecting Licence

059/02/01/T.P/ANG – MIREMPET/2020 covers an area of 7,456 square kilometres and is well located just 16 kilometres from the Longonjo Project and close to established road and rail infrastructure that leads to the Atlantic port of Lobito.

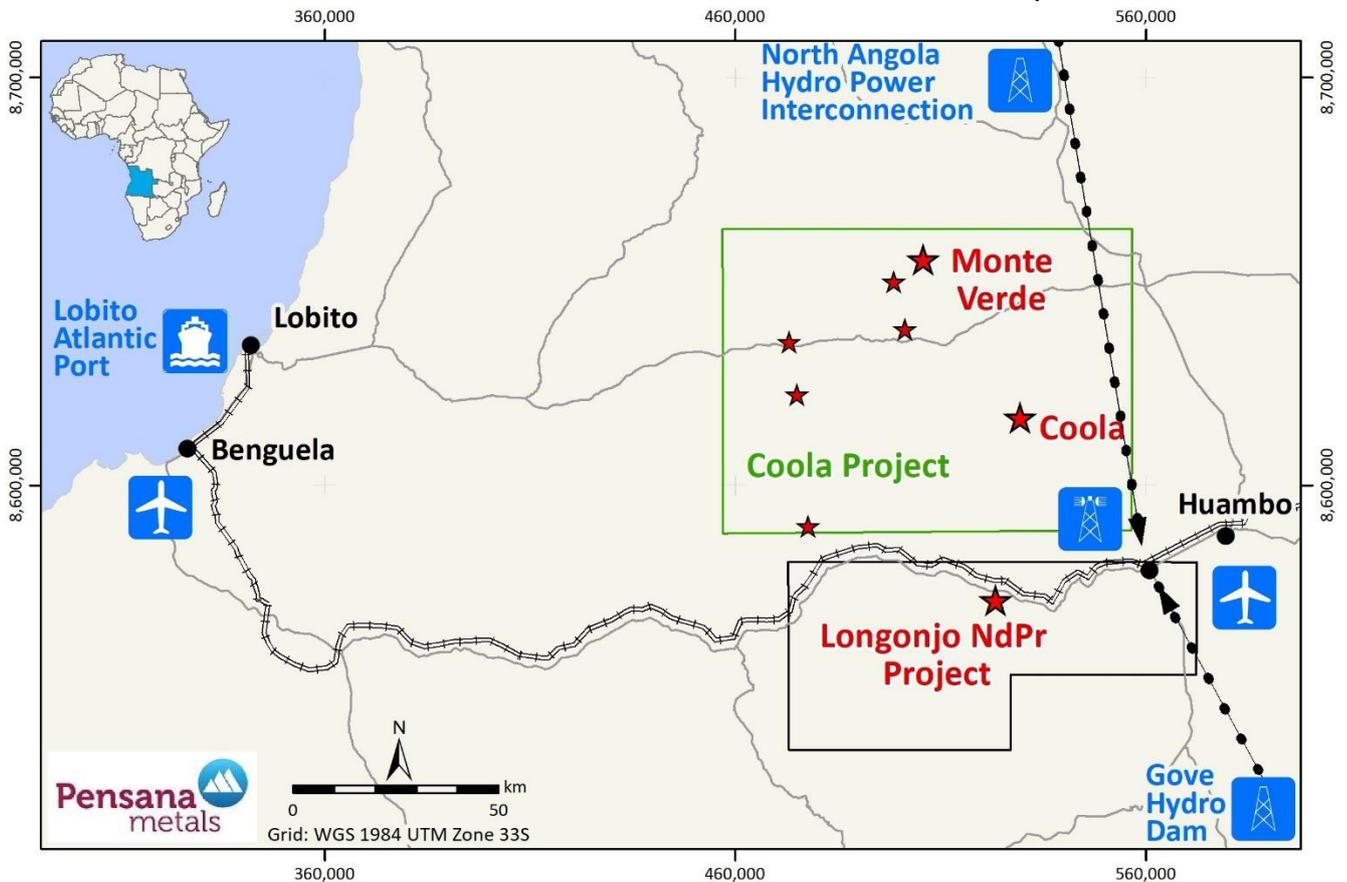


Figure 8: Location of new Coola Licence and known mineralised carbonatites and other alkaline complexes prospective for rare earths adjacent to Pensana's Longonjo Project and modern infrastructure

The project contains two carbonatite complexes, Coola and Monte Verde, which are confirmed as mineralised through academic work<sup>1</sup>.

Pensana holds a 90% beneficial interest in the licence with two Angolan partners each holding 5%. The licence was granted for a period of two years, renewable to 7 years.

1- Alberti A. et al., 1999: Geochemical characteristics of Cretaceous carbonatites from Angola, *Journal of Earth Sciences*. NdPr rare earth mineralisation was returned from a limited number of rock samples assayed up to 3.64% REO from Coola and 0.93% REO from Monte Verde, comparing well with the 1.41% REO returned from Longonjo in the same study.

The Coola and Monte Verde carbonatites have never been commercially evaluated and a significant portion of each lie beneath shallow soil. Five additional alkaline intrusive complexes - geological systems prospective for heavy and other

rare earths as well as titanium and niobium - are identified within the licence area. A further five strong geophysical anomalies that could reflect additional carbonatite or alkaline complexes will also be evaluated.

The team at Longonjo is well placed to rapidly and efficiently evaluate these established NdPr rare earth mineralised systems, which could complement a production base at Longonjo. The Company looks forward to commencing exploration of these targets.

## **CORPORATE**

### **General Meeting**

On 15 May 2020 the Company held a General Meeting to renew the general authority to allot shares alongside the approval to allot and issue shares (or CDI's) under a placement facility. The subsequent authority granted catered for the directors to be authorised to allot shares in the Company up to a maximum aggregate nominal amount of £40,155.50 alongside an additional three month placement facility to allot shares up to an aggregate nominal amount £16,062.

### **Successful Capital Raising with Angolan Sovereign Wealth Fund**

On 11 June 2020 the Company announced that it had secured a further investment of A\$7.25 million (before expenses) from Fundo Soberano de Angola (FSDEA), the Angolan Sovereign Wealth Fund which currently manages a significant portfolio of investments, distributed across various industries and asset classes, including the mining sector.

FSDEA agreed to subscribe for 25,808,633 ordinary shares in the Company at an average price of A\$0.2809 per share.

On completion FSDEA became a strategic cornerstone investor in the Company, holding approximately 17.8% of the enlarged share capital of the Company.

The funds raised are being used to advance the Company's flagship Longonjo Project to bankable feasibility status later this year.

The fully paid ordinary shares were issued under the Company's placement capacity in accordance with ASX Listing Rule 7.1 and general authority to allot shares in accordance with Section 551 of the Companies Act 2006.

### **Admission to London Stock Exchange**

As part of the Company's strategic objective of targeting the UK's burgeoning ESG and generalist fund market who are looking to gain exposure to the metals critical

to energy transition the Company finalised its admission to the London Stock Exchanges Main Market for listed securities under the ticker “LSE: PRE” on 6 July, post quarter end. The entire issued share capital of 188, 274,665 ordinary shares was admitted.

### **Heads of Agreement signed with CGWIC**

Post quarter end the Company announced that it had entered into a heads of agreement with CGWIC for the purposes of co-operating together on the Longonjo Project. CGWIC is a company with expertise and experience in international engineering and is actively engaged in Africa.

### **Payments to related parties of the entity and their associates**

During the quarter the Company made payments of A\$0.326 million to related parties and their associates. These payments relate to executive directors’ remuneration, non-executive directors fees, superannuation contributions and consulting fees

### **Covid-19 impact**

On the Longonjo Project the ability for key personnel to be on-site was curtailed by the inter-provincial travel restrictions with only a limited presence retained on-site and to date the Angolan government has extended the lockdown period to 10 May 2020. Fortunately several key work streams as regards the metallurgical programmes continued in Perth, Australia.

### **Tanzania**

The Company continued with the due diligence process with respect to the disposal of the Tanzanian assets during the quarter and an update on the sales process will be provided to the market shortly.

*Authorised by the board of Pensana Rare Earths Plc.*

For further information, please contact CEO Tim George at [contact@pensan.co.uk](mailto:contact@pensan.co.uk)

## Competent Persons Statements

The information in this report that relates to Geology, Data Quality 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 context in which it appears.

The information in this report that relates to the 2019 Mineral Resource estimates is based on work done by Rodney Brown of SRK Consulting (Australasia) Pty Ltd. Rodney Brown is a member of The Australasian Institute of Mining and Metallurgy and has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration, and to the activity he is undertaking, to qualify as a Competent Person in terms of The Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (JORC Code 2012 edition).

The Company confirms that it is not aware of any new information or data that materially affects the information included in the original market announcement and, in the case of estimates of Mineral Resources estimates that all material assumptions and technical parameters underpinning the estimates in the relevant market announcement continue to apply and have not materially changed. The Company confirms that the form and context in which the Competent Person's findings are presented have not been materially modified from the original market announcement.

## Summary of Tenement Information as at 30 June 2020

Country	Project Name	License Name	License no.	% Held at 31 March 2020	Change	% Held at 30 June 2020
Angola	Longonjo	Ozango Minerais SA	Nº298/05/01/T.E/ANG-MIREMPET/2020	0%	100%	100%
	Ozango	Ozango Minerais SA	Nº013/03/09/T.P/ANG-MGM/2015	84%	-	84%
	Coola	Coola Mining LDA	Nº059/02/01/T.P/ANG-MIREMPET/2020	90%	90%	90%
Tanzania	Miyabi	Miyabi Dyke	PL8933/2013	100%	-	100%
	Miyabi	Miyabi North	PL10908/2016	100%	-	100%
	Miyabi	Miyabi Airport New	PL10556/2015	100%	-	100%
	Miyabi	Mwabombo	PL10836/2016	100%	-	100%
	Miyabi	Kilimani	PL11309/2019	100%	-	100%
	Miyabi	Dalafuma	PL11310/2019	100%	-	100%
	Miyabi	Ngaya	PL11311/2019	100%	-	100%
	Miyabi	Shambani	PL11312/2019	100%	-	100%