



Quarterly Activities Report For the Period Ended 31 March 2020

Pensana Rare Earths Plc (ASX: PM8) (the Company or Pensana) is pleased to present its quarterly activities report for the period ended 31 March 2020.

Highlights

- **Mining licence approval received for the Longonjo project in Angola**
- **Large drilling programme completed at Longonjo to infill and extend Mineral Resource for DFS**
- **Encouraging results received from infill drilling returning high grade intersections from areas of Inferred category mineralisation outside of the PFS pit design**
- **The successful conversion of Inferred mineralisation to Indicated is expected to support an extended mine life**
- **Commencement of downstream processing study with encouraging early progress in the production of an NdPr rich rare earth carbonate from Longonjo's high grade concentrate**
- **Completion of Scheme of arrangement, A\$2.065 million investment by Angolan Sovereign Wealth Fund and targeted London Stock Exchange main board listing before Q2**

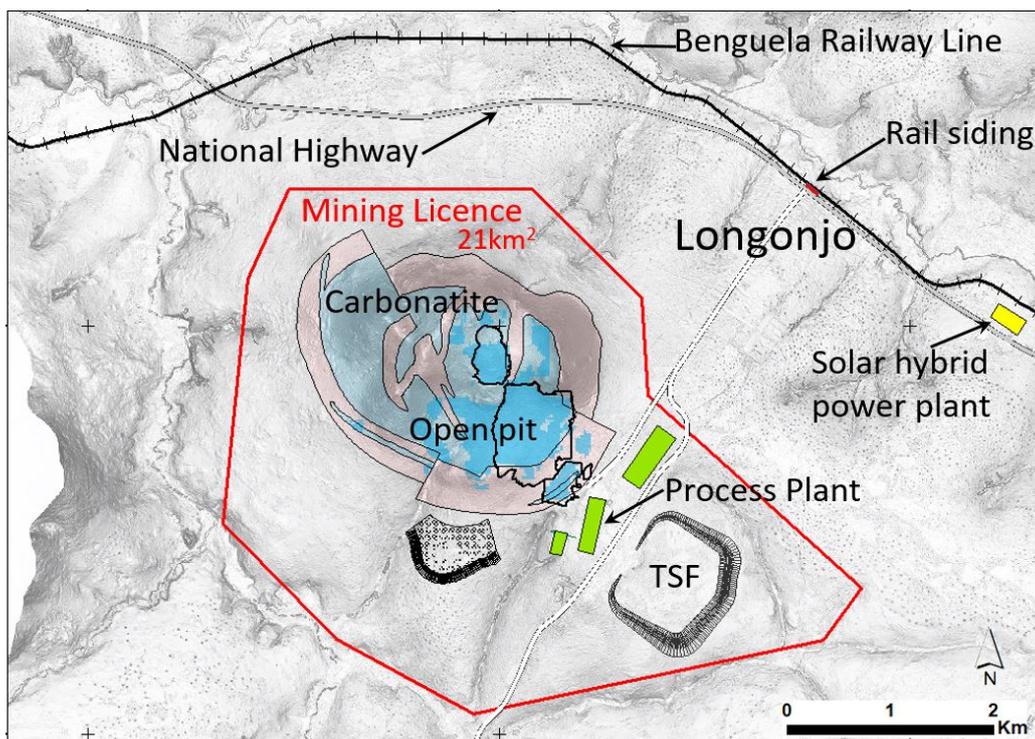
Mining licence approved for Longonjo

Application for a mining licence was submitted in January and approval received post quarter end. On 27 April 2020 the Company announced the approval for the exploitation of the Longonjo Rare Earths Project in Angola. The mining licence 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 profit 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

The exclusive mining rights have been granted over a 21 km² area, adjacent to the town of Longonjo in central Angola, which is well served by established transport and energy infrastructure.

The designated project area encompasses the Longonjo carbonatite deposit, proposed open pit mine, processing plant, tailings storage facility and all associated infrastructure required for the mining operations.



DFS Drilling Programme

A 195-hole, 7,987 metre reverse circulation (RC) infill and extension drilling programme was successfully completed in March in support of the Longonjo Definitive Feasibility Study (DFS) now in progress. The drilling is designed to provide detailed data to support an upgrade of mineral resource currently in the Inferred category to Measured and Indicated Mineral Resource categories, as well as to test several potential extensions to known mineralisation.

Three batches of assay results were received from 75 holes or 2,591metres during or just after quarter end from four areas outside the current PFS open pit design (ASX 15 November 2019).

High grade intersections returned from the infill drilling support the conversion of substantial amounts of Inferred mineralisation to Indicated, thereby allowing its inclusion in an expanded mine plan for the DFS.

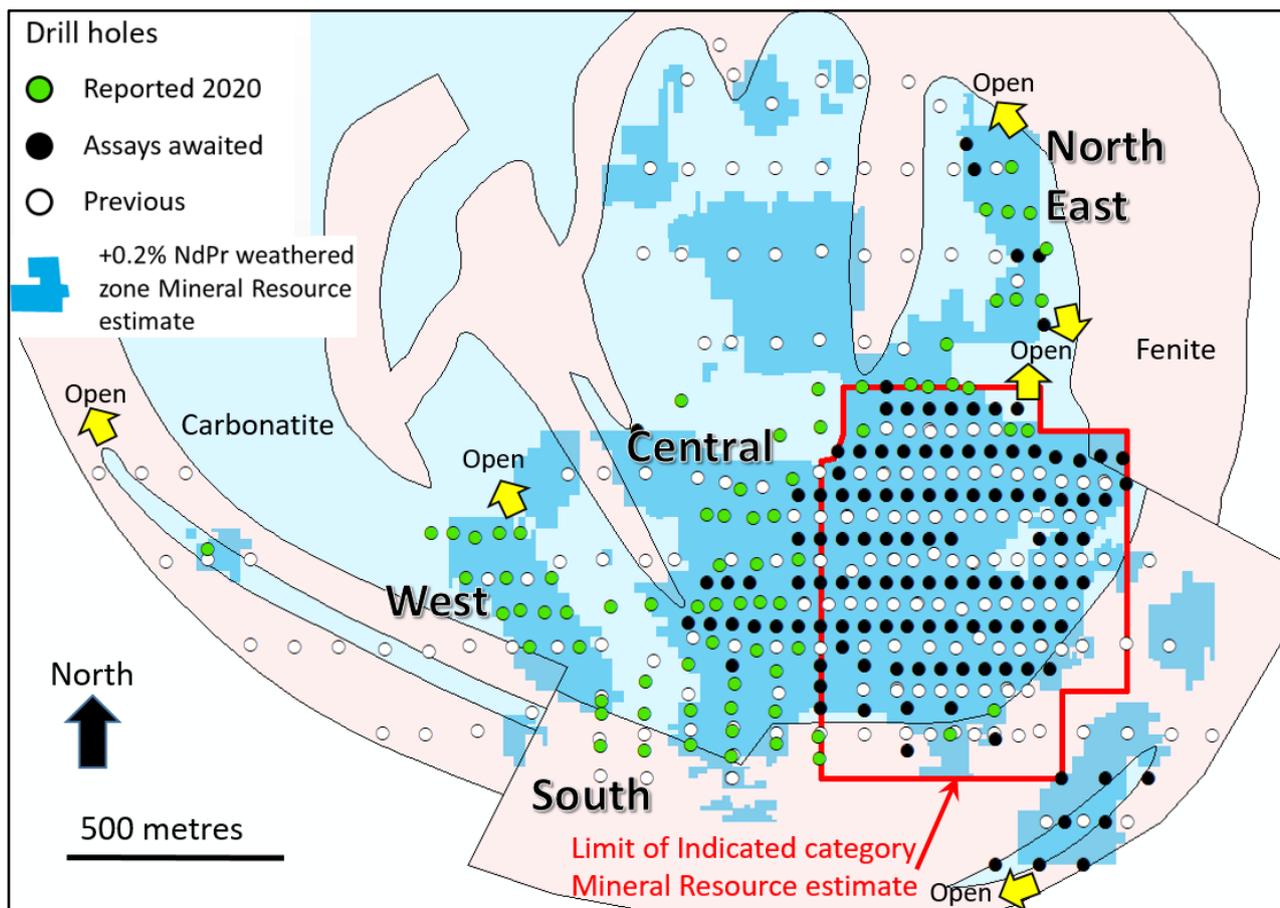


Figure 1: Plan view of the location of new assay results (green) reported during or just after the current quarter and completed new drill holes with results still awaited (black) over the +0.2% NdPr November 2019 Mineral Resource estimate block model for the weathered mineralisation. The current extent of the Indicated category Mineral Resource estimate is highlighted. Results from a further 120 drill holes (black) are awaited.

High grade intersections were returned from each of the four areas (Central, West, South and North East Figure 1). Results demonstrate the continuity of mineralisation and also extend it in some areas.



Figure 2: Two reverse circulation drill rigs in operation in the main mineralised zone at Longonjo, February 2020.

Central Area

Immediately west of the current PFS open pit design, new results define a 250 metre by 450 metre area of high grade weathered zone mineralisation with intersections up to:

<u>Drill hole</u>	<u>Intersection</u>
LRC175:	16 metres at 4.19% REO including 0.93% NdPr from surface
LRC180:	18 metres at 5.69% REO including 1.06% NdPr from surface
LRC182:	16 metres at 6.53% REO including 1.27% NdPr from surface to end of hole
LRC189:	13 metres at 6.19% REO including 1.01% NdPr from surface to end of hole

**NdPr = neodymium – praseodymium oxide. REO = total rare earth oxides. Intersections reported here and in following highlights at a +0.4% NdPr lower grade cut off. See ASX of 13 January 2020 for details of all new results from this area.*

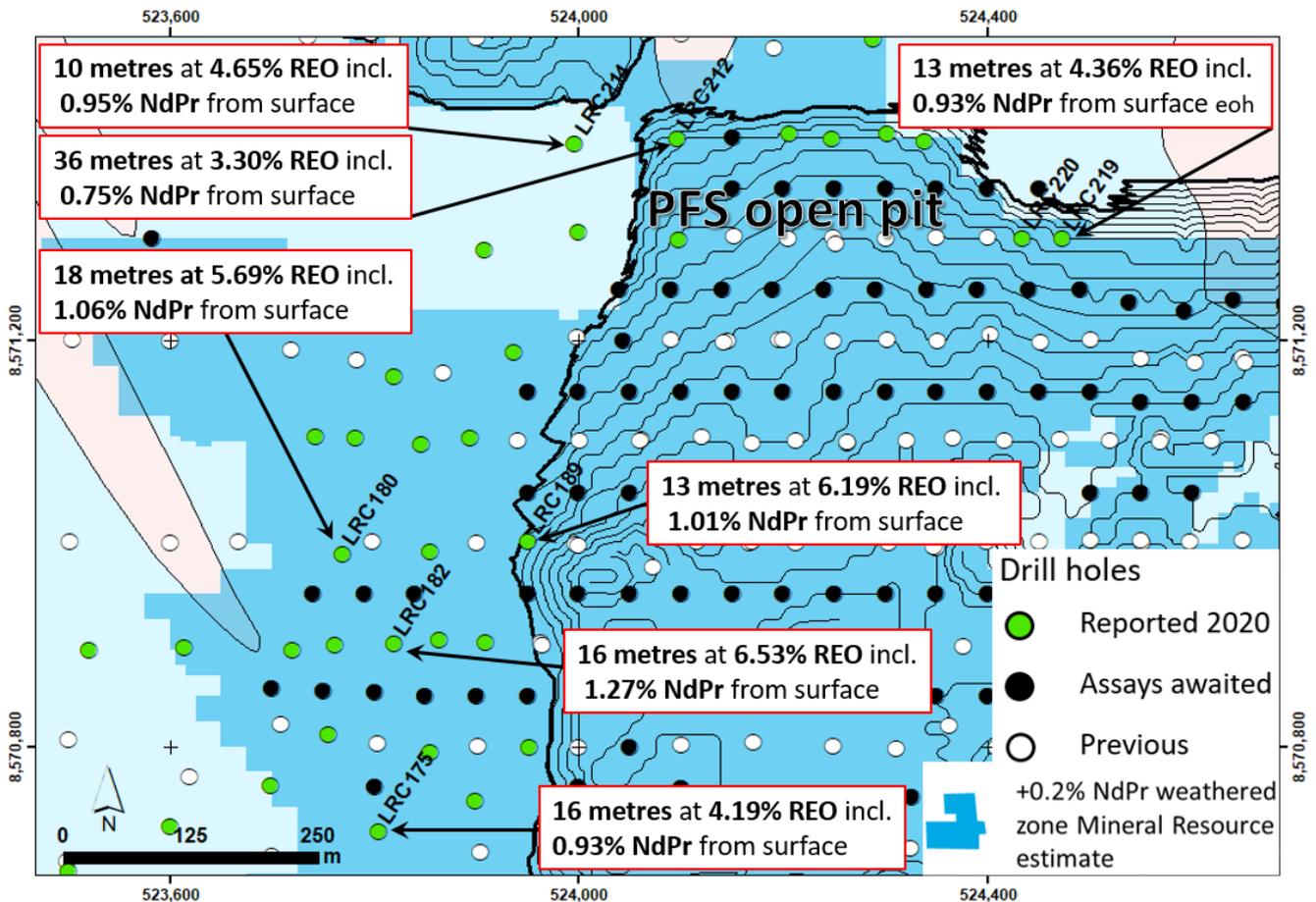


Figure 3: Location of new drilling (green and black) in the Central area and intersection highlights over the +0.2% NdPr November 2019 Mineral Resource estimate block model (blue) for the weathered mineralisation and the PFS open pit (see Figure 1 for location).

The infill drilling has demonstrated the continuity of mineralisation and several holes intersected higher NdPr grades than estimated by the current Mineral Resource estimate block model in this Central area. Assays from further infill (black holes) of this new high grade area are awaited.

To the north, high grade mineralisation in holes on the edge of and just beyond the limits of the current Mineral Resource extent (Figure 3) may allow the open pit to be extended. Here intersections included:

<u>Drill hole</u>	<u>Intersection</u>
LRC212:	36 metres at 3.30% REO including 0.75% NdPr from surface to end of hole
LRC214:	10 metres at 4.65% REO including 0.95% NdPr from surface
LRC219:	13 metres at 4.36% REO including 0.93% NdPr from surface to end of hole
LRC220:	18 metres at 4.01% REO including 0.87% NdPr from surface

See ASX of 16 March 2020 for details of all new results from this area.

Western Area

Lying 600 metres west of the PFS open pit, the continuity of this 400 metre long zone of high grade mineralisation is confirmed by the new infill drilling. The zone remains open to the north (Figure 4). New intersection highlights included:

<u>Drill hole</u>	<u>Intersection</u>
LRC197:	14 metres at 5.85% REO including 1.07% NdPr from 4 metres
LRC203:	36 metres at 6.74% REO including 1.10% NdPr from 16 metres
LRC204:	22 metres at 3.61% REO including 0.83% NdPr from 2 metres

See ASX of 16 March 2020 for details of all new results from this western area.

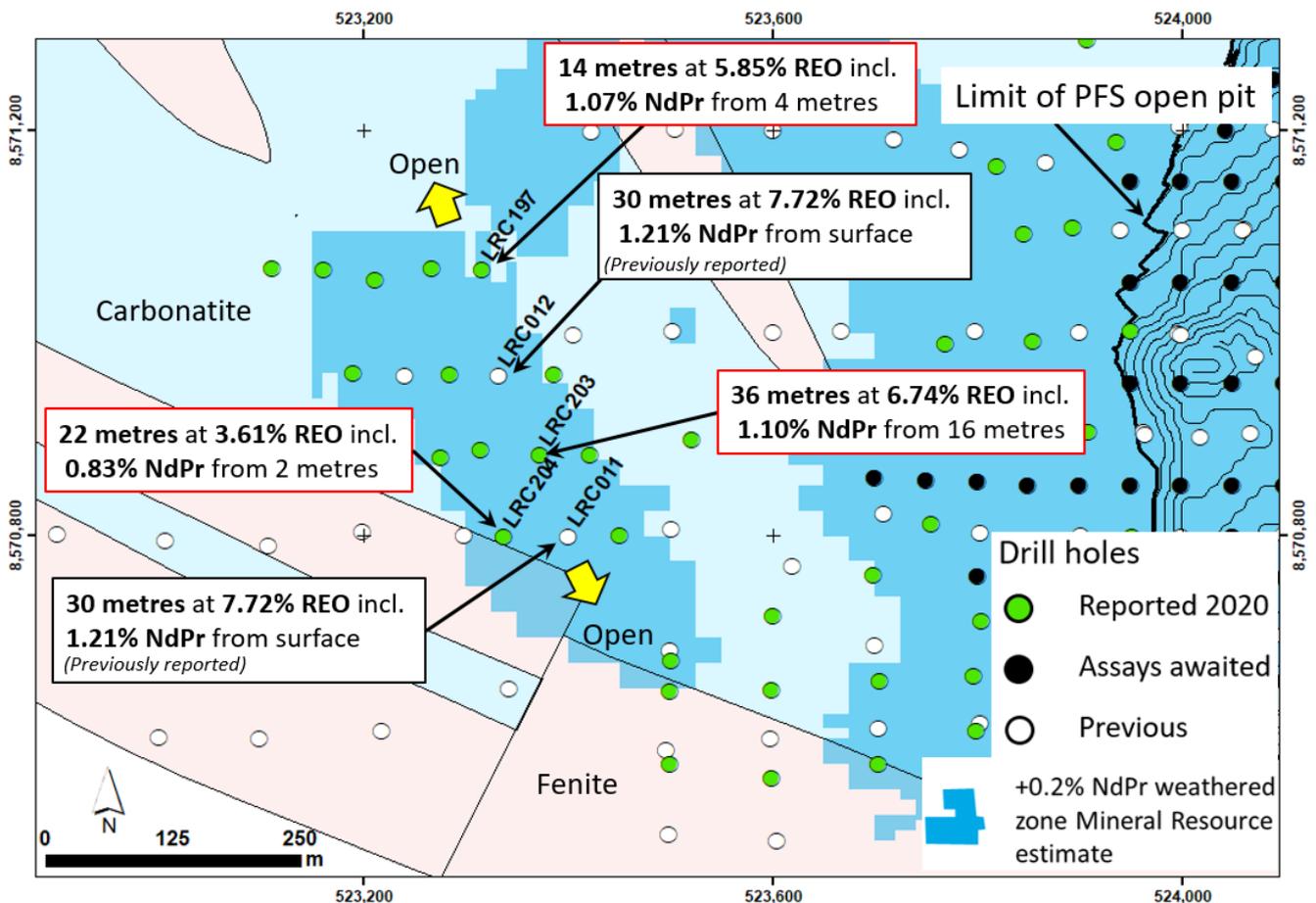


Figure 4: Location of new drilling (green and black) in the Western area and intersection highlights over the +0.2% NdPr Mineral Resource estimate block model (blue) for the weathered mineralisation and the limit of the PFS open pit 600 metres to the east (see Figure 1 for location).

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>
LRC231:	8 metres at 4.94% REO including 1.05% NdPr from 24 metres and 12 metres at 4.16% REO including 0.79% NdPr from 36 metres
LRC232:	14 metres at 5.63% REO including 0.96% NdPr from 56 metres
LRC233:	8 metres at 7.73% REO including 1.32% NdPr from 10 metres
LRC248:	6 metres at 5.32% REO including 1.10% NdPr from 24 metres

See ASX of 6 April 2020 for details of new results from the Southern Margin.

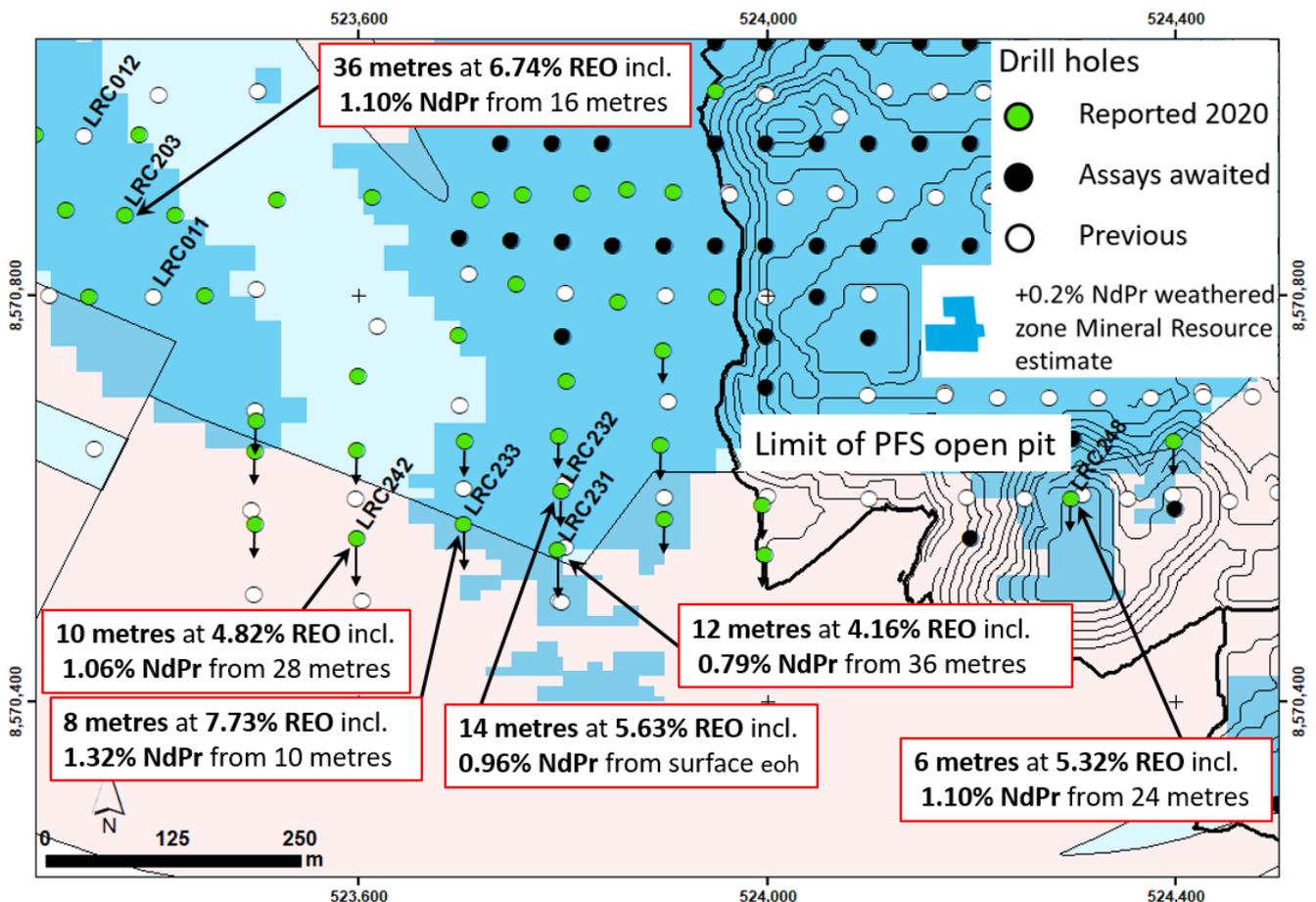


Figure 5: Location of new angled drilling (green with arrow) in the Southern Margin area and intersection highlights over the +0.2% NdPr Mineral Resource estimate block model (blue) for the weathered mineralisation and the PFS open pit (see Figure 1 for location).



Figure 6: Angled RC drilling testing high grade NdPr rare earth mineralisation associated with vertical carbonatite dykes on the southern margin of the Longonjo Carbonatite, January 2020.

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

See ASX of 6 April 2020 for details of all new results received to date from the North East Margin area.

The 400m long zone of deeply weathered carbonatite hosted mineralisation is up to 200 metres wide along the contact with the fenite (Figure 7). 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.

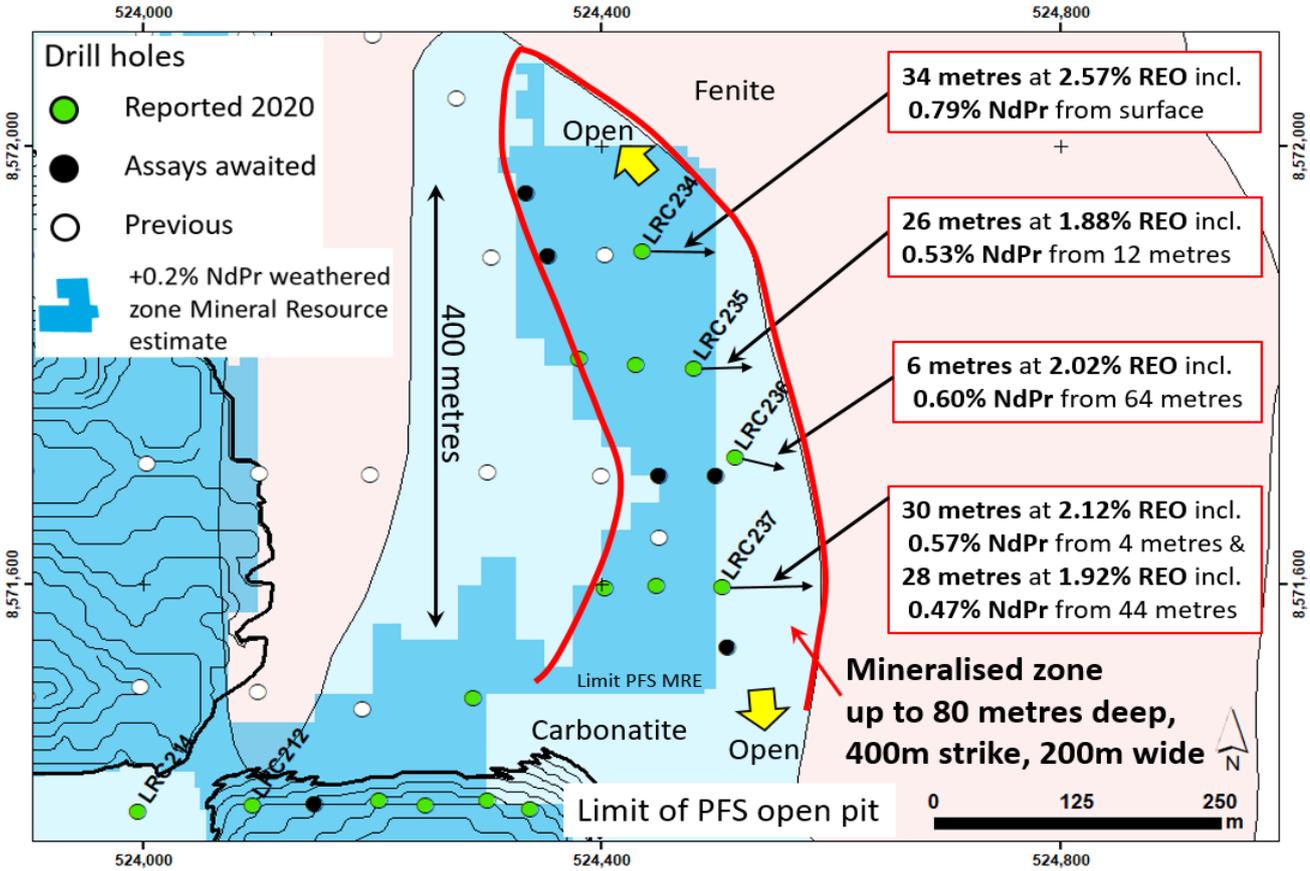


Figure 7: Location of new drilling (green and black) and intersection highlights over the +0.2% NdPr Mineral Resource estimate block model (blue) for the weathered mineralisation and the 9 year PFS open pit (see Figure 1 for location).

Like the other three areas, the North East Margin area is currently Inferred Mineral Resource and is not included in the PFS open pit design.

The infill drilling has demonstrated the continuity of the weathered zone mineralisation in all four areas and it is expected to be upgraded to the Indicated category in a revised Mineral Resource estimate to be completed once all results have been received. The transport of some of the drill samples to the Perth assay laboratory has impacted by the COVID-19 crisis. The samples will be released once international travel freight resumes, allowing the revised Mineral Resource estimate completed a few weeks after the receipt of the final assays.

The inclusion of mineralisation from these four areas into the DFS mine plan is expected to support an extended mine life at Longonjo.

Pilot Plant

During the quarter, four sea containers carrying over 60 tonnes of near surface weathered mineralisation arrived at Fremantle Port and were trucked to ALS Metallurgy ahead of the planned flotation pilot plant test work programme.

The containers were transported from site at Longonjo taking advantage of the existing modern transport infrastructure located just four kilometres from the project, having been loaded at the Longonjo rail siding for despatch to Australia via the Benguela rail line and the Port of Lobito.

The samples have now been dried, crushed and mixed in preparation for the commencement of pilot plant operations (Figures 8 and 9).



Figure 8 and 9 : Part of the 60 tonnes bulk sample at ALS laboratories in Perth, right: in bulka bags on arrival; left: being mixed and combined to produce a homogenised feed for the pilot plant

Downstream Processing

In February 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 is to process onsite and ship a high grade concentrate, the new study, which will form part of the DFS, will investigate the feasibility of the downstream processing of 50,000 tonnes per annum of concentrate into an 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.

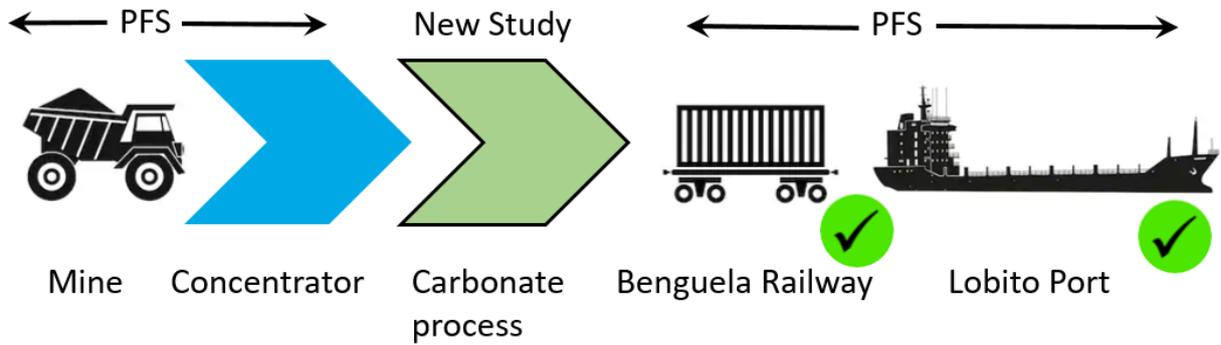


Figure 10: Pensana is investigating the feasibility of the further downstream processing of Longonjo’s high grade concentrate to produce an NdPr –rich rare earth carbonate, which could be incorporated into the DFS Study

Testwork has commenced to determine the optimum process route for Longonjo’s high grade concentrate. Initial test results have been received from the first stage of leaching of a sample of concentrate. Encouraging recoveries of 89% of total rare earths and NdPr into solution have been achieved in this first stage of the carbonate process.

Subsequent stages of purification and precipitation will be completed before the process is then optimised to further improve recovery and determine the lowest reagent consumption.

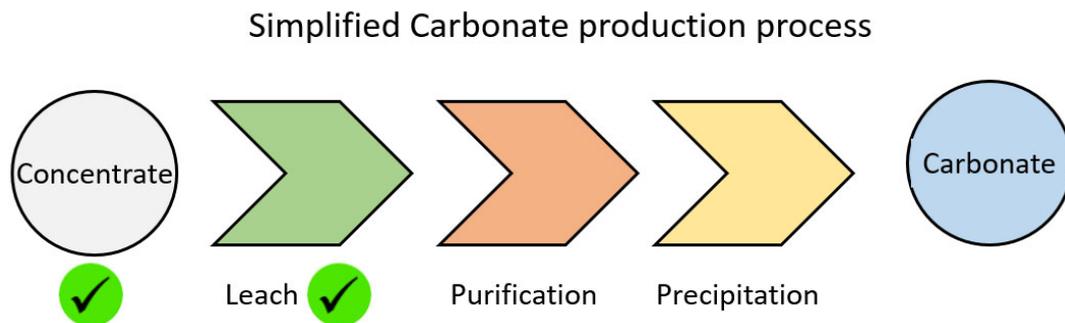


Figure 11: Status of test work to produce an NdPr rich rare earth carbonate from Longonjo’s concentrate.

CORPORATE

ASX Listing of Pensana Rare Earths Plc (PM8)

On 15 January 2020, Shareholders approved the scheme of arrangement (the “Scheme”) by which Pensana Rare Earths Plc (“Pensana UK”) acquired all of the ordinary shares in Pensana Metals Ltd. The Supreme Court of Western Australia made orders approving the Scheme on 22 January 2020 pursuant to which each shareholder of the Pensana Metals Ltd received 1 (one) Pensana UK CDI for every 1 (one) share held in Pensana Metals Ltd on or around 4 February 2020. Once the Scheme was implemented, the Company become a wholly owned subsidiary of Pensana UK.

On 11 February 2020, Pensana Rare Earths Plc (ASX: PM8) was reinstated to Official quotation on the ASX and commenced trading on Wednesday, 12 February 2020, following the implementation of the scheme of arrangement under Part 5.1 of the Corporations Act.

Successful Capital Raising supported by Angolan Sovereign Wealth Fund

On 11 March the Company announced that it had raised just over A\$2 million 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 7,648,670 ordinary shares in the Company at A\$0.27 per share, to raise gross proceeds of A\$2,065,141 before expenses.

On completion FSDEA became a strategic cornerstone investor in the Company, holding approximately 4.8% of the enlarged share capital of the Company.

The funds raised will be used to progress the Definitive Feasibility Study for the Company's flagship Longonjo Project and to provide working capital.

The 7,648,670 fully paid ordinary shares were issued under the Company's placement capacity in accordance with ASX Listing Rule 7.1.

Update on London Stock Exchange Listing

The company's planned listing on the LSE is now expected to be completed by the end of the next quarter depending on market conditions and subject to the receipt of relevant regulatory approvals.

Related Party Payments

During the quarter, the Company made payments of \$0.254 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 impacts and cost reductions

The Board has implemented several cost cutting measures in light of the ongoing lockdown including, but not limited to, salary reductions across the Group, cancellation of contracts with several service providers and downscaling of office space.

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.

Tanzania

On 20 January 2020, the Group submitted an application for a Mining Licence to the Executive Secretary of the Mining Commission for the Miyabi Gold Project.

The application form was submitted together with a feasibility study, an employment and training plan and general corporate documents in respect of Carlton Miyabi (Tanzania) Limited (such as its articles of association, financial statements for the year ended 30 June 2019 etc). The Group expects the adjudication process for the Mining Licence to be completed in the second quarter of 2020.

The Company is reviewing several proposals with respect to the purchase of the Miyabi Gold Project. A review thereof is currently ongoing.

Authorised by the board of Pensana Rare Earths Plc.

For further information, please contact CEO Tim George at contact@pensanametals.com.

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 31 March 2020

Country	Project Name	License Name	License no.	% Held at 31 Dec 2019	Change	% Held at 31 March 2020
Angola	Ozango	Ozango Minerais SA	Nº013/03/09/T.P/ANG-MGM/2015	84%	-	84%
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%
	Canuck	Canuck South	PL11017/2017	100%	(100%)	0%