



Quarterly Activities Report for the Period Ended 31 December 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 31 December 2020.

Highlights

- **Planning application submitted to establish rare earth oxide separation facility at the Saltend Chemicals Park, Humber, Yorkshire**
- **Business plan for the establishment of the world's first sustainable mine to magnet metal supply chain well advanced and expected to be reported in the next few weeks**
- **Arrangements for the delisting from the ASX and a notice of meeting for a proposed name change to Pensana Plc sent to shareholders**
- **Liberum appointed as joint broker to the Company**
- **Appointment of Baroness Northover PC as Non-Executive Director of the Company**
- **High grade rare earths in soil samples confirmed at the Coola exploration project located 16 kilometres north of the flagship Longonjo project**

UK rare earth processing study

During the Quarter, the Company announced that it had appointed Wood Group to undertake a study into the establishment of an integrated rare earth processing facility in the UK with a view to creating the world's first sustainable magnet metal supply chain.

Having progressed the design of the Longonjo project to include the production of a mixed rare earth sulphate, Pensana had the unique opportunity to explore the potential to make one further step downstream and to create additional value by establishing a rare earth oxide production facility in the UK.

This was followed by the announcement on 8 December 2020 that the Saltend Chemicals Park in the Humber Local Enterprise Partnership, Yorkshire, had been selected as the proposed site to build the UK's first rare earth processing facility.

Post Quarter-end on 25 January 2021, the Company announced it had progressed further with the submission of a planning application for the proposed facility.

The US\$125 million facility is anticipated to generate around 100 direct jobs once constructed and in operation. It is being designed by Wood Group to become one of the world's largest producers of rare earth oxides, crucial components in the manufacture of powerful permanent magnets which are used in a range of growing advanced industries including electric vehicles and offshore wind turbines.

The application, which is expected to take up to three months to review, supports Pensana's commitment to establish the world's first fully sustainable mine to magnet metal supply chain in the UK.

The Saltend Chemicals Park is a cluster of world-class chemicals and renewable energy businesses including BP Chemicals, Ineos, Nippon Gohsei and Air Products. It is strategically located on the Humber estuary, a gateway to Europe and the UK's busiest ports complex.

The 370-acre site has had £500 million of investment over recent years and is managed by px Group, a leading provider of services in complex industrial sectors.

The site provides 'plug and play' services with ready access to the port, a wide range of utilities, power, chemical supply, logistics and a large pool of skilled personnel with experience in the chemicals industry.

GEOLOGY AND EXPLORATION

High grade rare earths confirmed at Coola

On 21 Dec 2020, the Company reported high grade rare earths in soils from the first sampling programmes completed at its 7,500 square kilometre Coola Project, located 16 kilometres north of its flagship Longonjo project in Angola.

The Coola Project

The Company reported having identified several carbonatite and alkaline complexes within Coola with geological prospectivity for critical technology metal commodities that could complement future NdPr rare earth production from Longonjo.

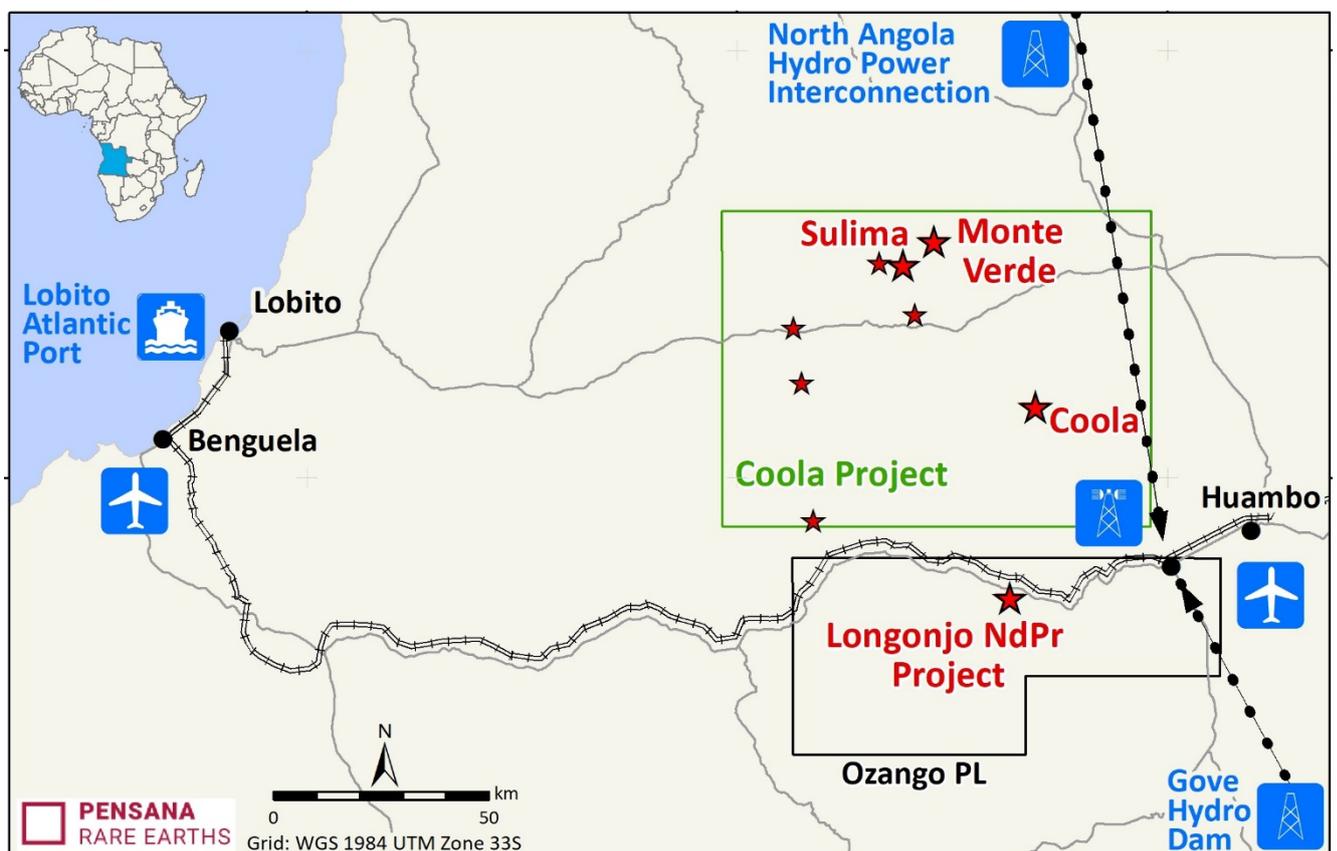


Figure 1: Location of the new Coola Licence and known mineralised carbonatites and other alkaline complexes prospective for critical technology metals. Coola lies adjacent to Pensana's Longonjo Project and established modern infrastructure

Systematic soil sampling and geological mapping programmes were completed over two geological targets in October and assay results from the first, the Coola Carbonatite itself, were received.

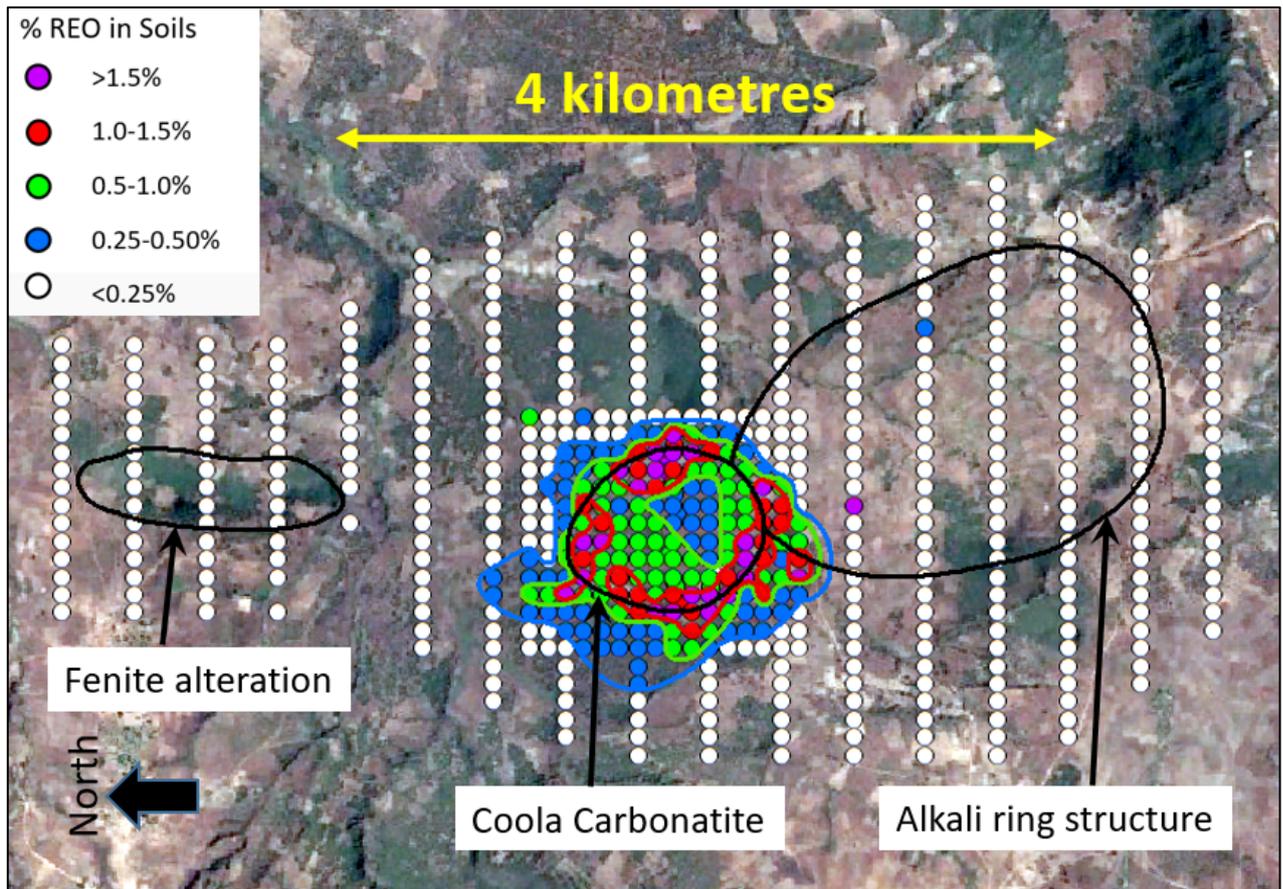


Figure 2: Plan view of Coola carbonatite – alkali complex. High tenor rare earth in soils anomalism extends over the circular carbonatite part of the multi – centre volcanic complex

Assay results received from the soil sampling programme show that a high tenor rare earth in soils anomaly extends over a wide area.

Soils contain up to 4.69% REO over an outcropping carbonatite ring dyke system that forms part of the 1.2 kilometre diameter Coala Carbonatite (Figure 2). The central part of this circular volcanic structure lies entirely beneath thick soil cover. Several 3 metre deep pits were excavated in the central area but failed to reach bedrock, so the potential for additional prospective carbonatite and the mineralisation potential remains unknown. Assay results from vertical channel samples of the pits are still awaited.

Outcropping fluor spar mineralisation was located within the Coala complex during the geological mapping (Figure 3). As well as being listed as a critical commodity and having direct economic potential in its own right, fluor spar is also a positive indicator of the potential for additional technology metals in this geological setting. Assay results from rock samples of fluor spar mineralisation are also awaited.

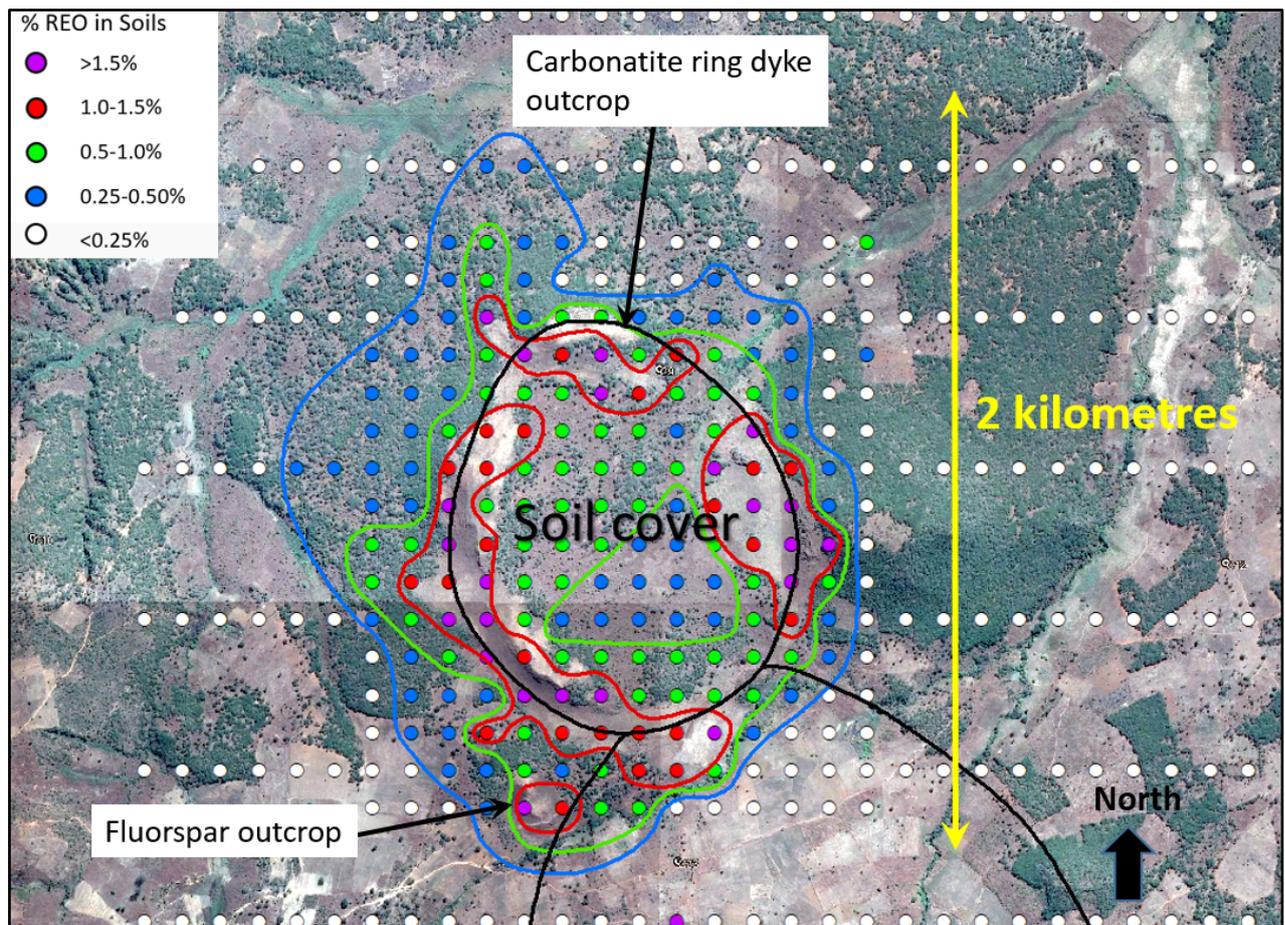


Figure 3: High tenor rare earth in soils anomalism over the outcropping carbonatite ring dyke and the soil covered interior to the circular mineralised volcanic feature at Coola

As at Longonjo, the carbonatite associated rare earth anomalism at Coola is also accompanied by highly elevated levels of phosphorous, barium, iron, manganese, niobium, strontium and zinc.

An additional soil sampling programme has been completed over the Monte Verde alkali, and carbonatite complex and assay results are expected shortly. Geological mapping and sampling of the large, twin centre Sulima alkali complex is planned for early 2021. A stream sediment sampling programme and geological reconnaissance of a series of geophysical anomalies has commenced and will continue.

Grant Hayward appointed Exploration Manager

The Company welcomed the appointment of Mr Grant Hayward as Exploration Manager during the Quarter.

Grant is an accomplished economic geologist and manager with extensive experience in the exploration for and evaluation of rare earth and associated commodities including phosphate, fluorspar and niobium. He has been involved

with the evaluation of carbonatites in South Africa, Malawi, Namibia, Mozambique, Uganda, Zimbabwe and Tanzania as well as in a range of other commodities and geological styles including platinum, gold, base metals, graphite and industrial minerals. He has lead several resource definition programmes to NI43-101 compliant resources including the Zandskopdrift rare earth carbonatite project in South Africa.

Grant was on site at Longonjo recently to supervise the bulk sample drilling programme and is exceptionally well qualified to lead the geological team on its Longonjo development works and Coola exploration going forward.

Longonjo bulk sample drilling programme

Technical programmes to support the feasibility and detailed engineering studies for the development of Longonjo and a UK based rare earth refinery continued on site with a large diameter drilling programme concluded in early December.

Drilling was completed to provide feed for further optimisation and pilot plant programmes, supporting the Company's expanded strategy of mining and processing operations in Angola and a UK refinery.

A total of 15 drill holes were completed using a specialised large diameter drill rig to provide representative bulk samples of weathered zone mineralisation from surface to 24 metres in depth.

Dec'20



Figure 4: large diameter drill rig in operation-

100 tonnes of mineralisation from the areas of proposed first mining is being shipped from site through the port of Lobito to the Company's test facilities in Perth, Australia.



Figure 5: Some of the bulk drill samples of mineralisation at Longonjo camp ready for loading and shipment to Perth, Australia

CORPORATE

Departure of Dave Hammond

On 9 October 2020 the company announced the departure of Dave Hammond who stepped down in his role as Chief Operating Officer and director of the Company.

New Board appointment

On 2 November the Company announced the appointment of Rt Hon Baroness Lindsay Northover PC as a Non-Executive Director of the Company. Baroness Northover (66) was the UK Prime Minister's Trade Envoy to Angola (2016-2020) and Zambia (2017-2020) and Africa Minister for the Department for International Development ("DFID") (November 2014 – May 2015). She joined the Pensana Board as one of four independent Non-Executive Directors.

Appointment of London broker Liberum

On 23 November the Company reported the engagement of Liberum to work alongside the Company's existing advisors and brokers, with the brief to provide advice on how best to meet the growing demands from investors for sustainable investments.

ASX Delisting

Post quarter end, on 20 January, the Company announced that it had applied to the Australian Securities Exchange to be removed from the official list pursuant to ASX Listing Rule 17.11 while maintaining its primary listing under the stock code PRE on the main board of the London Stock Exchange.

Payments to related parties of the entity and their associates

During the quarter, the Company made payments of A\$0.259 million to related parties and their associates. These payments relate to executive director remuneration, non-executive director fees, superannuation contributions and consulting fees.

Authorised by the board of Pensana Rare Earths Plc.

For Further information:

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Competent Persons Statements

The information in this report that relates to Geology and Exploration results is based on information compiled and/or reviewed by Grant Hayward, who is a registered Geological Scientist with the South African Council for Natural Scientific Professions (Pr.Sci.Nat # 400044/97) and is a Fellow of the Geological Society of South Africa. Grant Hayward is the Exploration Manager 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 (JORC Code 2012 edition). Grant Hayward consents to the inclusion in the report of the matters based on his information in the form and contest in which it appears.