

Diamond Drill Rig Mobilised as Conviction Grows at Bluebush REE

BGL008 highest grade at end of hole ending in 3,779ppm TREO (26% MREO) including 96ppm Dy₂O₃ and 16ppm Tb₄O₇

HIGHLIGHTS

- Diamond drill rig mobilised to Bluebush to test the depth profile of the saprolite clay across Boa Vista and Sao Bento Prospects.
- Initial program of up to 1,000m will test areas at Boa Vista that included exceptional TREO/MREO values in **BLG008** of **6m @ 2,537ppm TREO, inc. 3m @ 3,415ppm TREO (24% MREO)**.
- **Grade at hole BLG008 started from surface and appears to be increasing at depth, ending in 3,779ppm TREO (26% MREO) including 96ppm Dy₂O₃ and 16ppm Tb₄O₇ of**
- **77 auger holes have been released to date from a total of 210 drilled to date, with more assays expected in the coming weeks. Auger drilling is ongoing.**
- Loupe Portable Electromagnetic survey to map the near surface conductivity and clay profile.
- **Ionic clay adsorption testwork ongoing and expected to be released in October.**
- **Bluebush is located adjacent to and in the same geological setting as the tier-one, Serra Verde Ionic Clay REE Project (MRE of 911Mt @ 1,200ppm TREO), the only ionic clay project currently being commissioned outside of China.**

Alvo Minerals Limited (ASX: ALV) ("Alvo" or the "Company") is pleased to announce that it has mobilised a diamond drill rig to test to saprolite clay depth profile at the Bluebush REE Project ("**Bluebush**" or the "**Project**"). Bluebush is located on the northern half of the Serra Verde granite, host of the world-class Serra Verde Ionic Clay REE deposit ("**Serra Verde**"), the only ionic clay deposit currently being commissioned outside of China.

Rob Smakman, Alvo's Managing Director commented on progress across the Bluebush REE Project:

"Our confidence in Bluebush is growing following the exceptional drill results we released last week from Bluebush. We intend to test the saprolite clay depth profile immediately at areas with the higher-grade MREOs. Auger holes have a limited depth capability and with holes such as BLG008 ending in 3,779ppm TREO (26% MREO), we are confident in extending the modelled depth of high-grade mineralisation."



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PROJECTS

Palma VMS Cu/Zn Project
Bluebush REE Project

Shares on Issue 93,130,314
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"It is important at this early stage to have a full picture of the saprolite profile at Bluebush and the best way to do this is via diamond drilling. The drill team- who have been drilling successfully at Palma since October 2021- will be onsite shortly.

"October will not only see diamond drilling, but the start of a concerted push on exploration- with ongoing extensional Auger drilling and commencement of the Loupe geophysical survey to better define the clay and regolith profile which will assist in preparing a clear exploration target."

The Initial diamond drill program of up to 1,000m will focus on testing the saprolite clay depth profile across the Boa Vista prospect. Auger drilling to date at Boa Vista did not always reach bedrock, with many of the holes ending in the highest grade MREO values recorded, including:

- BLG008: 6m @ 2,537ppm TREO (21% MREO) to EOH from 0m
 - Inc. 3m @ 3,415 TREO (24% MREO) to EOH from 3m
 - **EOH (1m): 3,779ppm TREO (26% MREO)**
- BLG005: 6m @ 1,243ppm TREO (23% MREO) to EOH from 8m
 - **EOH (1m): 1,729ppm TREO (25% MREO)**
- BLG51: 4m @ 1,049ppm TREO (22% MREO) to EOH from 2m
 - 2m @ 1,292ppm TREO (24% MREO) to EOH from 4m
 - **EOH (1m): 1,493ppm TREO (24% MREO)**

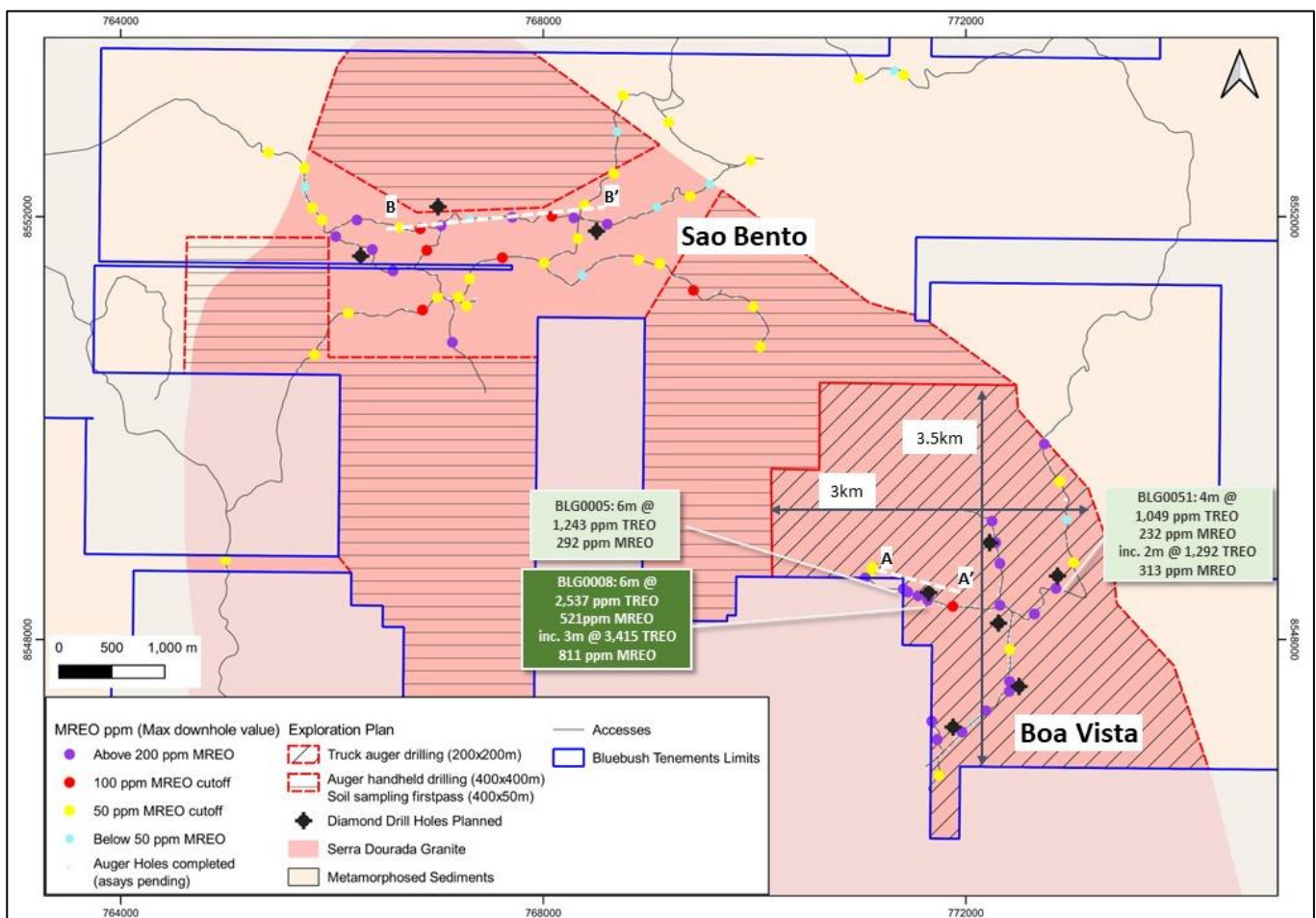


Figure 1: Bluebush REE Project auger results, completed drilling and planned exploration works. Loupe Geophysical surveys are planned to cover the total tenement area, initiating around Boa Vista.

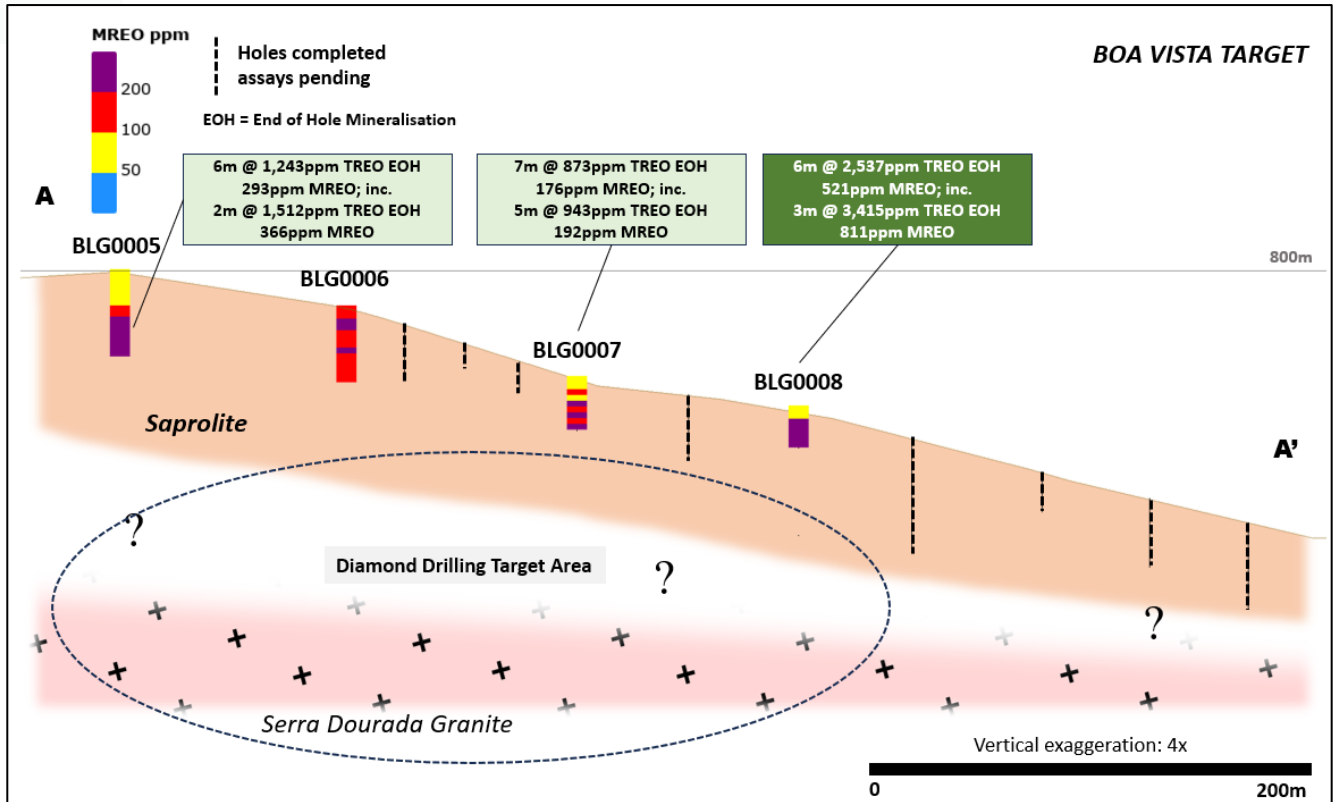


Figure 2: Cross section through A-A' prospect at the Boa Vista Target

Alvo's Bluebush Exploration Strategy and Future Work

Alvo is uniquely positioned to rapidly explore and advance Bluebush due to its existing exploration infrastructure, personnel and the equipment the Company has on site in Palmeiropolis.

The Bluebush Project area will be prioritised within Alvo's wider Brazilian exploration schedule, cognisant of the 6-month (extendable by agreement) due diligence period (expiring in December 2023). Alvo intends to build a better understanding around the potential scale, grade and recoverability of the MREO mineralisation at Bluebush.

As a systematic, innovative and accelerated exploration program, Alvo intends to:

- Diamond drill across Bluebush which will target a better understanding of the saprolite profile. Drill core will also be saved for any resource estimation and metallurgical sampling purposes in the future.
- Utilise the Loupe Portable Electromagnetic survey system (recently arrived in country), to map the thickness and extent of saprolite/clay horizons to prioritise ongoing exploration.
- Auger drilling using Alvo's truck-mounted auger drill rig that has completed 1,237 auger holes for 12,579m¹ across all of Alvo's Projects since mid-January 2023 (incl. 210 holes for 1,669m at Bluebush).
- Alvo has recently purchased a hand-held auger, which is more portable and therefore able to access remote areas of the Project.
- A soil sampling and mapping program has also been instigated in areas towards the middle of the Serra Dourada granite. These areas have more difficult access and are therefore more suitable on foot.
- Systematical sampling of the auger and soil samples that are dried overnight, sieved, and analysed using the SciApps X-555 portable XRF analyzer. This analyzer has a higher voltage, providing higher sensitivity for strategic metals, including REEs.
- Samples from the auger and diamond drilling will be sent to an independent lab in Brazil for analysis.

¹ Until end of September 2023

- Selected samples (once sufficient drill results have been received) will be sent to an independent lab for testing of the ionic-clay adsorption recovery characteristics, vital in the due diligence of the Project.

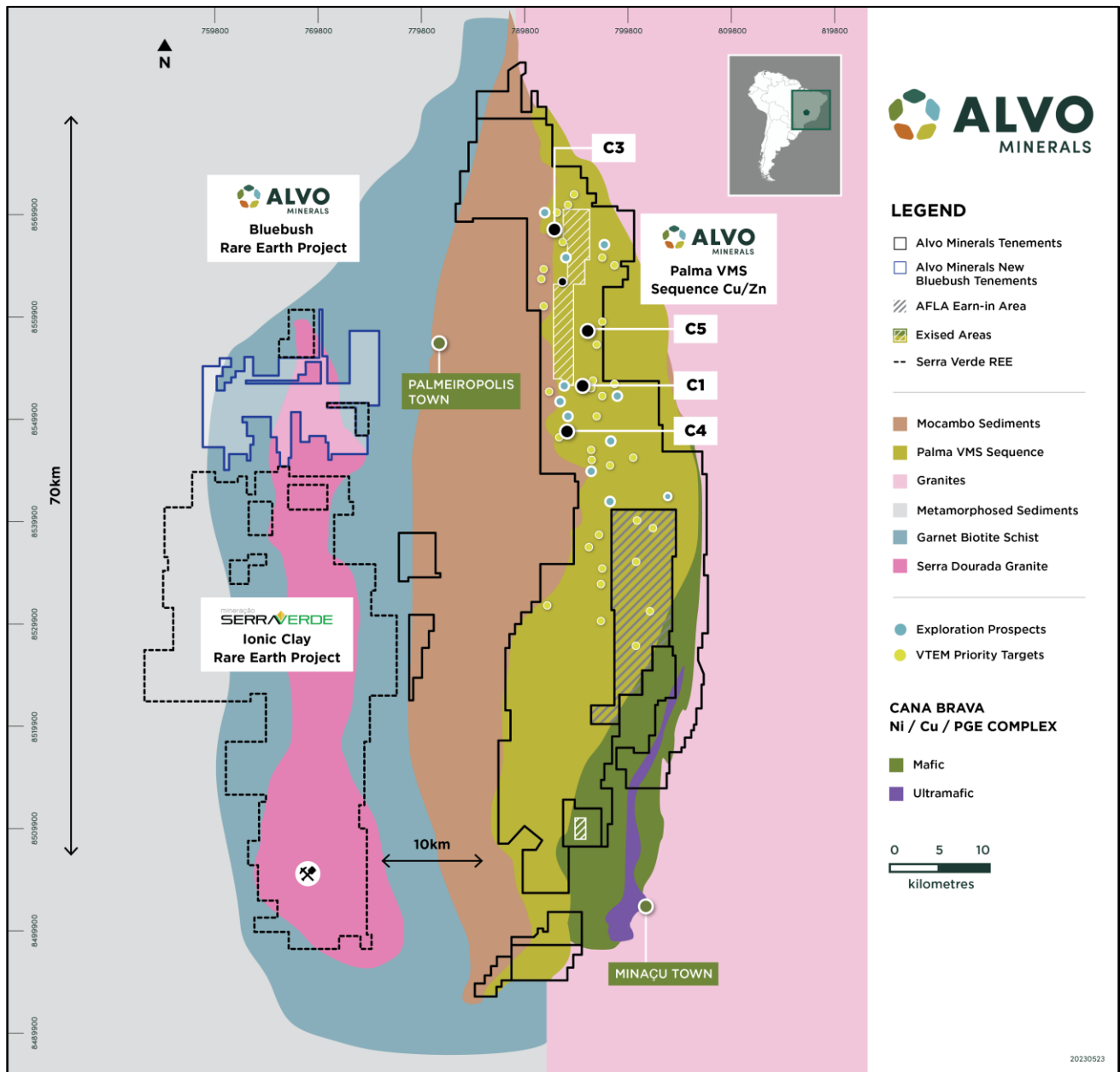


Figure 3: Regional geology and tenement holdings for Alvo's Bluebush REE Project and Palma Project area

Bluebush REE Project

Alvo has an option agreement with Mata Azul SA (**Mata Azul** or **Project vendors**) to acquire 100% of the Bluebush REE Project. Alvo has six months to complete due diligence on the Project to its satisfaction, after which it can purchase the Project. Bluebush neighbours Alvo's Palma VMS Project (see Figure 3) which makes due diligence and exploration a relatively straightforward exercise. Bluebush is considered highly prospective for the high value Magnet Rare Earth Elements hosted in surficial saprolites, potentially of the highly valued ionic adsorption clay classification.



Ionic clay hosted REE deposits are highly favoured due to the relatively simple processing required to create a REE oxide concentrate and for the high levels of HREO² and MREO³ rare earth element oxides.

Bluebush is along strike from, and on the same biotite-rich granitic intrusion called Serra Dourada, host of the Serra Verde Ionic Clay REE Project, the only ionic clay REE project currently in the commissioning phase in the world outside of China. Serra Verde is expecting to commence production in late CY2023⁴.

Serra Verde has an estimated Mineral Resource⁵ of 911Mt @ 1,200ppm TREO and an Ore Reserve of 350Mt @ 1,500ppm TREO. With an elevated percentage of the higher value heavy and magnet REEs, Serra Verde is projecting a mine life of over 20 years.

The Serra Verde deposit is hosted in the weathered saprolite profile of the Serra Dourada biotite granite, the same granite that is mapped on the Bluebush areas. Historical work by the Bluebush Project vendors has been ongoing intermittently since they acquired Bluebush in 2004 and has confirmed the presence of mineralised REEs within the saprolite (Serra Verde was discovered in ~2010).

Alvo intends to utilise the due diligence period to not only verify the historical results by auger drilling but will also apply systematic exploration across the tenure to better understand the potential of the Project. Preliminary tests for ionic clay hosted mineralisation within the Bluebush are currently underway, with results expected in October.

This announcement has been approved for release by the Board of Alvo Minerals Limited.

ENQUIRIES

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² **HREO Heavy rare earth oxides** are defined by their higher atomic weights relative to light rare earth oxides. HREOs include oxides of gadolinium (Gd), terbium (Tb), dysprosium (Dy), holmium (Ho), erbium (Er), thulium (Tm), ytterbium (Yb), lutetium (Lu) and include scandium (Sc) and yttrium (Y). Alvo's results do not include Sc. Uses include computer and phone displays, and fibre optic cables.

³ **MREO Magnet rare earth oxides** can handle greater saturation magnetization than more common elements such as iron and allow for fabrication of stronger and smaller magnets. These can be used for climate economy products such as electric vehicles and wind turbines. MREOs include oxides of Nd, Pr, Dy, and Tb and are some of the highest value REEs.

⁴ For more information on the Serra Verde operation, please refer to the company website: <https://serraverde.com/en/our-operation/>

⁵ For details of the Serra Verde Mineral Resource Estimate, please refer to Serra Verde presentation: <https://www.cetem.gov.br/antigo/images/palestras/2015/iiisbtr/05-denilson-fonseca.pdf>



Forward Looking Statements

Statements regarding plans with respect to Alvo's Palma Project and its exploration program are forward-looking statements. Forward-looking statements are only predictions and are subject to risks, uncertainties and assumptions which are outside Alvo's control and actual values, results or events may be materially different to those expressed or implied herein. Alvo does not undertake any obligation, except where expressly required to do so by law, to update or revise any information or any forward-looking statement to reflect any changes in events, conditions, or circumstances on which any such forward-looking statement is based.

Competent Person's Statement

The information contained in this announcement that relates to recent exploration results is based upon information compiled by Mr Rob Smakman of Alvo Minerals Limited, a Competent Person and Fellow of the Australasian Institute of Mining and Metallurgy. Mr Smakman is a full-time employee of Alvo and has sufficient experience relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the "Australasian Code for Reporting of Mineral Resources and Ore Reserves" (or JORC 2012). Mr Smakman consents to the inclusion in this announcement of the matters based upon the information in the form and context in which it appears.

In relation to the MRE and other exploration results or estimates cross-referenced herein, these are extracted from the Independent Geologists' Report prepared by Target Latin America and others (the "IGR"), which is included in full in Alvo's prospectus dated 30 July 2021 (the "**Prospectus**") and which was announced to ASX within the Prospectus on 18 October 2021. Alvo confirms that it is not aware of any new information or data that materially affects the information included in the IGR and that all the material assumptions and technical parameters underpinning the Inferred Mineral Resource Estimate continue to apply and have not materially changed.

Previously Reported Results

There is information in this announcement relating to exploration results which were previously announced on 28 September 2023. Other than those disclosed in the announcement, the Company confirms that it is not aware of any new information or data that materially affects the information included in the original announcement.

ABOUT ALVO

Alvo Minerals (ASX: ALV) is an active critical minerals exploration company, with two exciting Projects being explored from the Company's base in Central Brazil.

Alvo is hunting high-grade copper and zinc at its Palma Copper-Zinc VMS Project. The Palma Project has a JORC 2012 Inferred Mineral Resource Estimate (MRE) of 4.6Mt @ 1.0% Cu, 3.9% Zn, 0.4% Pb & 20g/t Ag. MRE to be updated in 2023.

Alvo is also exploring for Rare Earth Elements, currently undertaking due diligence on the highly prospective Bluebush MREE Project, adjacent to its existing exploration base. Bluebush is adjacent to and along strike from the Serra Verde Ionic Clay REE Project, which is the only Ionic Clay REE project currently in construction outside of China.

Alvo's strategic intent is to aggressively explore and deliver growth through discovery, leveraging managements' extensive track record in Brazil.

Alvo is committed to fostering best in class stakeholder relations and supporting the local communities in which it operates.

