



APRIL 16, 2024

## Maiden Drill Programme to Commence at the Arkun Project, WA

- Drilling to commence this week at the Hyperion Rare Earth Element (REE) Prospect to test a large Rare Earth Element soil geochemistry anomaly.
- The soil anomaly covers at least a 3 km<sup>2</sup> area at greater than 1,000 ppm Total Rare Earth Oxide (TREO + Y) with peak values up to 5,880 ppm (0.59%) TREO+Y and Nd+Pr of up to 21%.
- The soil anomaly is hosted in weathered granite and is prospective for a large clay-hosted REE deposit.
- All necessary statutory approvals, Program of Works (POW) and land access permissions received.
- Aircore/ slimline RC rig has been secured and is currently mobilising to site

An aircore drill programme will commence this week at Impact Minerals Limited's (ASX:IPT) Hyperion REE prospect, which is part of the 100% owned Arkun Project, located 150km east of Perth in the emerging mineral province of southwest Western Australia ( Figure 1).

The drill programme, comprising approximately 40 holes for 2000 metres will test the significant REE soil geochemistry anomaly identified at Hyperion, where results of up to 5,880 parts per million (ppm) Total Rare Earth Element Oxides and Yttrium (TREO +Y) were reported previously (ASX Release 4<sup>th</sup> January 2024). These are some of the highest TREO-in-soil results reported recently in Western Australia. Other REE soil geochemistry anomalies have been identified at Swordfish and Horseshoe (Figure 2 and ASX Releases January 4<sup>th</sup> 2024 and June 1<sup>st</sup> 2023).

Impact Minerals' Managing Director, Dr Mike Jones, said, *"The discovery of the Hyperion REE Prospect was a significant breakthrough in exploring the Arkun Project, and we are eager to drill test the anomaly to assess the depth extent of the weathered clay that may host the REE mineralisation. The key to an economic discovery is to evaluate how easily the REEs can be extracted through simple acid leaching of clays and, so we will be sending samples for preliminary test work as quickly as possible. Given this is the first-ever drill programme at Arkun, and that several other significant REE anomalies remain to be tested at Arkun, for example Swordfish and Horseshoe, the extraction characteristics will have an important bearing on any future resource definition drilling"*.

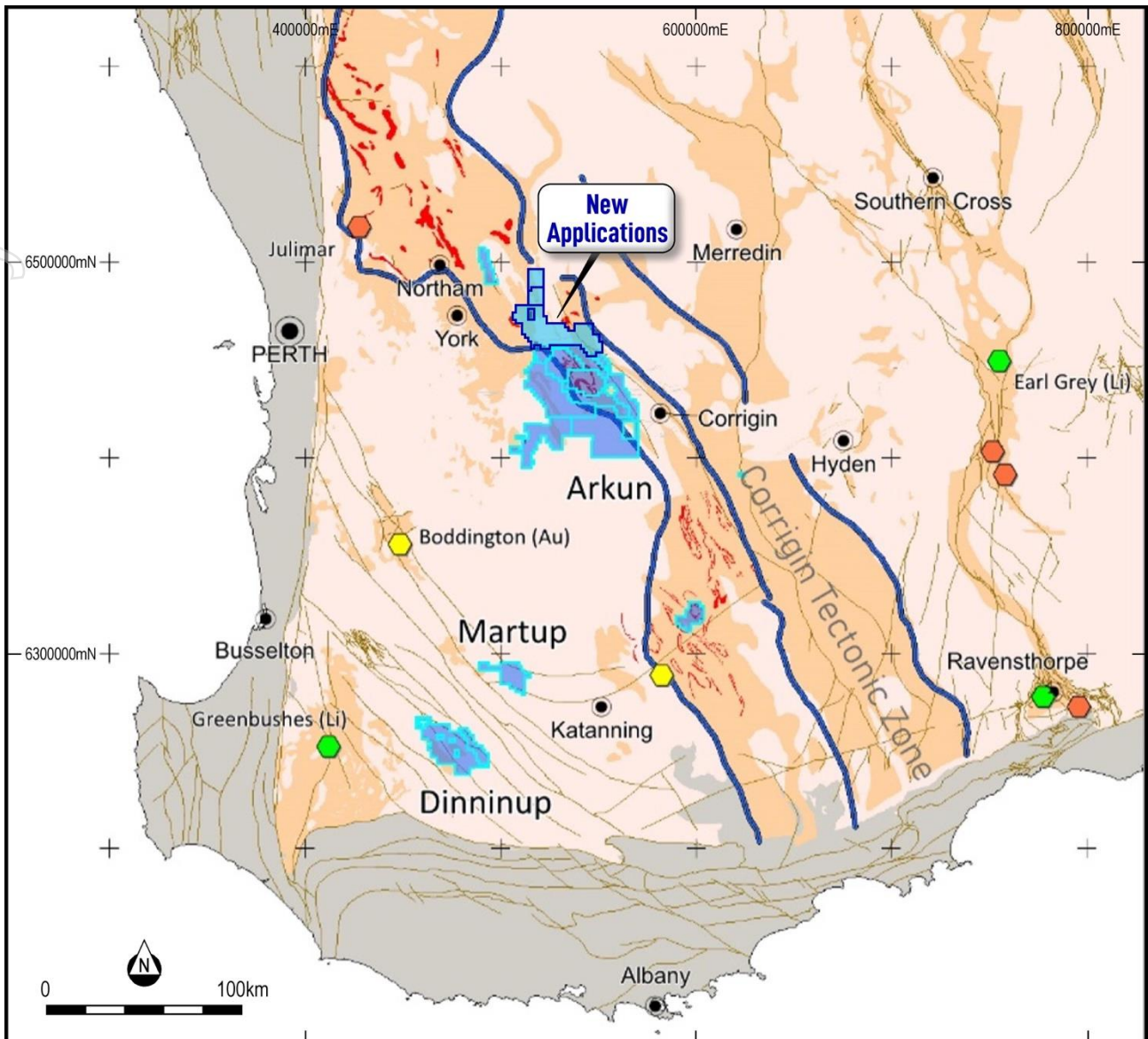


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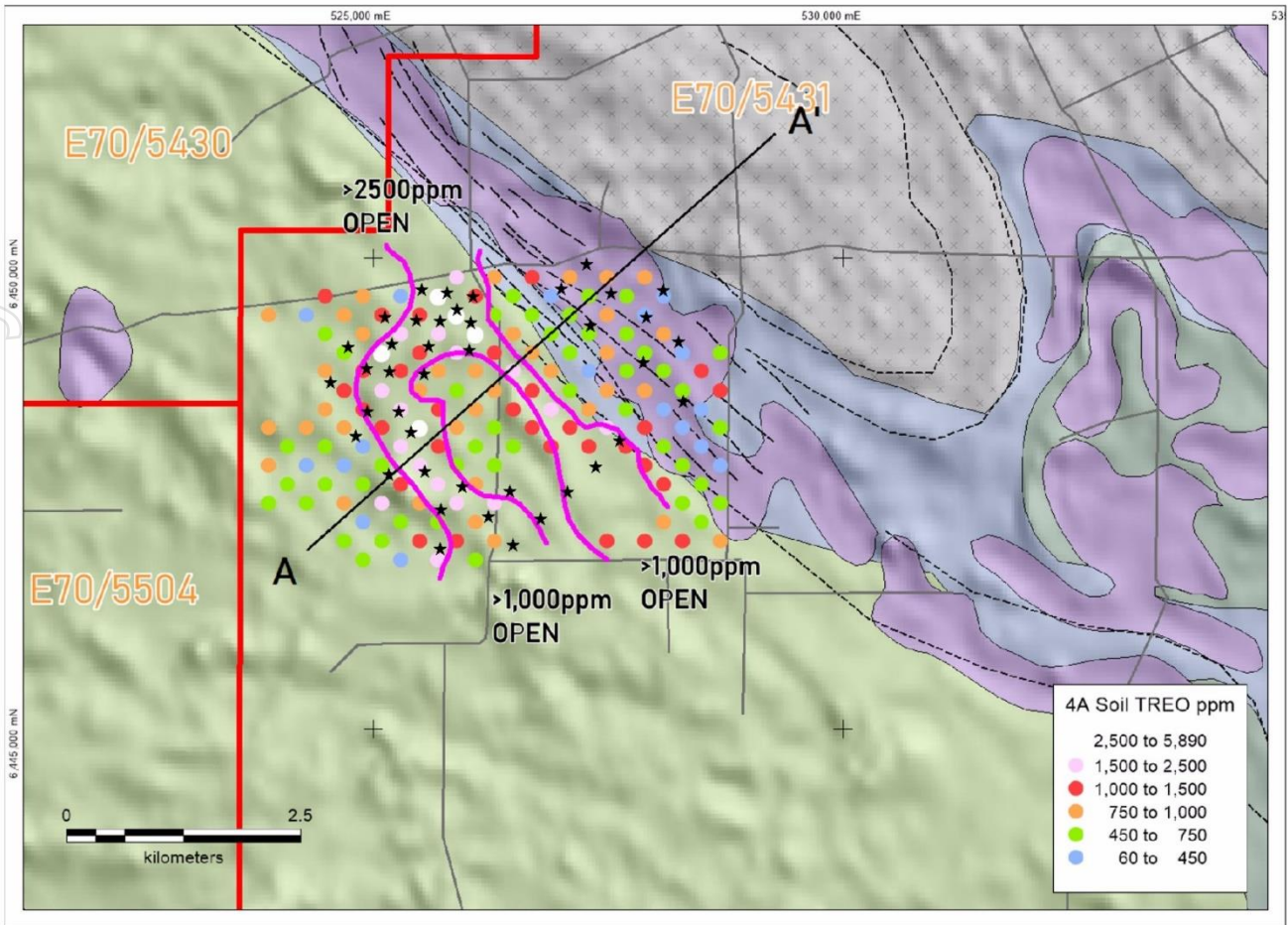
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**Figure 1.** Location and regional geological setting of Impact’s Arkun and other projects in the emerging mineral province of southwest Western Australia. Also shown are recent additions to the Arkun project (ASX Release March 14<sup>th</sup> 2024). Significant nickel deposits are shown in orange, lithium deposits in green and gold deposits in yellow.



**Figure 2.** Hyperion REE Prospect: TREO+Y results and location of planned drill collars noted by black stars

### Hyperion Prospect

The soil geochemistry results have defined an area of more than 3 km<sup>2</sup> at greater than 1,000 ppm TREO+Y at Hyperion (Figure 2). Five samples returned greater than 2,500 ppm TREO+Y with a peak value of 5,880 ppm (0.58%) TREO+Y, amongst some of the highest tenor REE soil values reported in Western Australia ASX Release January 4<sup>th</sup> 2024).

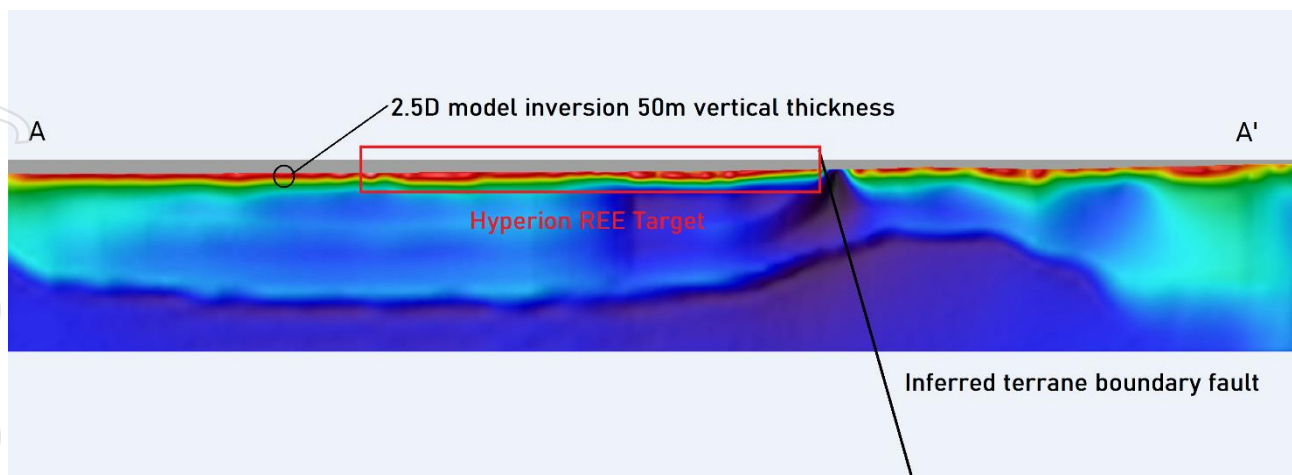
Within the anomaly, two broad northwest-southeast trending zones of more than 1,500 ppm TREO+Y-in-soils extend for 2.5 km along-trend and are open in both directions (Figure 2).

The anomaly has an average neodymium plus praseodymium percentage of about 20%, typical of most regolith-hosted mineralisation in the region with Heavy REE contents of between 54 ppm and 200 ppm within the >1,000 ppm parts of the anomaly (ASX Release January 4<sup>th</sup> 2024). This is encouraging for discovering the more economically compelling Heavy Rare Earths close to the surface.

The Hyperion anomaly is underlain by a well-preserved laterite (weathering) profile developed on very weathered granite bedrock, the likely source of the REE.

By coincidence, Impact's previous airborne electromagnetic (EM) survey covers part of the Hyperion anomaly (Section Line A-A', Figure 3. ASX Release 18<sup>th</sup> September 2023). Geophysical modelling of this data shows a possible vertical thickness of up to 60 metres of conductive clays across much of the Hyperion anomaly, suggesting a significant volume of clay that may host REE mineralisation is present close to the surface (Figure 3). In addition, the regional magnetic data indicates the underlying granite may cover an area of about 170 km<sup>2</sup>, suggesting there is significant scope to increase the size of Hyperion with further soil surveys.

Together, this data indicates Hyperion has both the areal and depth extent to be a very large and exciting target for clay-hosted REE mineralisation immediately below the laterite cap, which is only a few metres thick in most places. This is a priority area for drilling.



**Figure 3.** Conductivity cross-section of airborne EM data showing a conductive (red colours) layer up to 60 m thick across the Hyperion REE anomaly. This near-surface layer is caused by conductive clays in the weathering profile. The conductivity image was produced by Sensore Ltd using their proprietary 2.5D inversion algorithm. The eastern contact of the host granite is marked by a resistive zone, which is interpreted as a major structure.

As interpreted from regional magnetic data, the host granite is highly evolved and in sharp contact with mafic rocks to the east (Figures 1 and 2). This northwest-southeast trending contact is a major deep-seated terrane-bounding structure within the regional Corrigin Tectonic Zone and has also been identified in the airborne EM data (Figures 1 and 3).

This tectonic setting is similar to other recently reported REE mineralisation associated with evolved granites in the southwest of Western Australia and augurs well for further exploration at Arkun. Examples include Karlonning (Codrus Resources Ltd), Mukinbudin (Caprice Resources Ltd), Bencubbin (Cygnus Metals Ltd), Burracoppin (Moho Resources Ltd), Trayning (Magnetic Resources Ltd) and Marvel Loch East (Venus Metals Corporation).

### Aim of the Drill Programme

At this stage, the nature, depth, and thickness of the REE mineralisation at Hyperion are unknown. The aircore drill programme aims to test the depth of the weathered zone and the REE content and obtain samples for metallurgical test work.

Recent experience shows that elevated REE results only sometimes correlate with easily leachable clays, and the metallurgical performance of the clay is a more important criterion for early-stage exploration assessment than the grade or tonnage of the regolith hosting the clays. Further details are provided below.

Assays and results of the drilling are expected towards the end of Q2 of 2024.

## About Rare Earth Deposits

Rare Earth Elements, which are increasingly being used in a wide range of new technology industries, include Lanthanum (La), Cerium (Ce), Neodymium (Nd), Praseodymium (Pr), Samarium (Sm), Dysprosium (Dy), Gadolinium (Gd), Holmium (Ho), Europium (Eu), Erbium (Er), Terbium (Tb), Thulium (Tm), Ytterbium (Yb), Lutetium (Lu). Yttrium (Y) is also commonly quoted as it is often intimately associated with rare earth element mineralisation. Rare Earth Elements are quoted as oxides, converted from the elemental results into oxide via accepted stoichiometric conversion ratios.

Whilst the classification of rare earth elements varies, typically, the results are divided into Light Rare Earths (LREE or LREO; La, Ce, Nd, Pr) and Heavy Rare Earths, including 'magnet' rare earths (MREO; Nd, Pr, Dy, Tb) and Critical Rare Earths (CREO; Nd, Dy, Eu, Y and Tb).

How the Rare Earth Elements occur within fresh and weathered rocks is an essential economic constraint in exploration for REE mineralisation, particularly when hosted by weathered rocks.

The well-known deposits of REE hosted in clays of southwest China, which include a high proportion of valuable heavy rare earth elements, occur as weakly bound ions in the clay, allowing them to be recovered by leaching with simple solutions (sodium chloride or ammonium sulphate) with some weak acid.

Recent exploration in Western Australia has identified vast expanses of regolith containing REE in clays and variably weathered bedrock and occasionally in laterite at the very top of the weathered profile. These deposits typically comprise dominant proportions of colloidal REEs, which are more strongly bound than the ionic clays, as well as variable amounts of refractory primary REE minerals such as monazite, xenotime and zircon.

Weak acids cannot digest the colloidal and primary REEs. These require stronger acids, longer leach times, and higher temperatures to be processed and, consequently, are more expensive to extract. Determining the type of REE present and the likely metallurgical flow sheet required are the critical factors to resolve as quickly as possible in REE exploration.

## About the Arkun Project

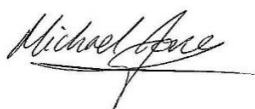
Impact's Arkun Project is centred about 200 km southeast of Perth and comprises eight tenements covering a total area of 1,900 km<sup>2</sup> between the towns of Quairading, Corrigin and Brookton (Figure 1).

The Project covers a significant part of the Corrigin Tectonic Zone, a prominent crustal-scale feature interpreted as an exhumed granulite-metamorphosed granite-greenstone terrane intruded by various younger mid-crustal granites.

The Corrigin Tectonic Zone is a tectonic assemblage of different geological domains associated with significant mineral deposits such as the very large Julimar PGE-Ni-Cu deposit (>10 Moz of palladium plus nickel and copper), the Katanning gold deposit (>3 Moz gold) and the giant Greenbushes lithium-tantalum deposit. Arkun was initially staked within the Zone as it was interpreted to contain strong nickel, copper and platinum group element prospectivity associated with a suite of mafic and ultramafic intrusions similar to the host rocks at Julimar (ASX: CHN) and Yarawindah Brook (ASX:CPN). The Zone is also prospective for iron, rare earth elements and vanadium.

## COMPLIANCE STATEMENT

This report contains no new Exploration Results.



Dr Michael G Jones  
Managing Director

## Competent Persons Statement

*The review of results in this report is based on information compiled by Mr Roland Gotthard, a Member of the Australasian Institute of Mining and Metallurgy and a consultant to Impact Minerals Limited. He has sufficient experience which is relevant to the style of mineralisation and types of deposits under consideration and to the activity that he is undertaking to qualify as a Competent Person as defined in the 2012 edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (the JORC Code). Mr Gotthard has consented to including the matters in the report based on his information in the form and context in which it appears.*

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