

VR Resources confirms enriched magnet-REE apatite with new metallurgical results from Hecla-Kilmer, and signs MOU with Novamera.

NR-23-24

December 13, 2023, Vancouver, B.C.: VR Resources Ltd. (TSX.V: VRR, FSE: 5VR; OTCQB: VRRCF), the "Company", or "VR", is pleased to report results from ongoing metallurgical work for rare earth element mineralization (REE) at the company's Hecla-Kilmer ("H-K") project in northern Ontario.

New chemical data from laser ablation ICP-MS on the Hole 13 bulk sample confirms that the phosphate mineral **apatite** is uniquely enriched in REE. The apatite plays a dual role in REE mineralization: its crystal structure is uniquely enriched in REE, and; it has small inclusions of the phosphate mineral monazite with ~60 wght% TREO and parasite/synchysite fluorocarbonate minerals with ~30 wght% TREO.

- Apatite contains around 80% of all REE mineralization at H-K, with an average concentration of **7.3% TREO**;
- Permanent magnet REEs (PMREO) are up to **25% of TREO** in the apatite, and are enriched in neodymium compared to the finer grained REE-bearing minerals monazite and parasite;
- Over 75% of remaining REE mineralization occurs as small inclusions of monazite and parasite within apatite vein crystals and in apatite-fenite wallrock alteration;
- Carbonatites are a source of pure, clean magmatic phosphate used in electric vehicle batteries, and the apatite in the 461 m intersection in Hole 13 averages **37% P₂O₅**, starting at surface.

Electron microprobe images of apatite with monazite inclusions are shown in [Figure 1](#) and [Figure 2](#).

Drill core photos are in [Figure 3](#). They show the apatite-biotite-magnetite mineralogy found at high-grade TREO zones across Hecla-Kilmer, from Pike Zone to the South Rim located some 2.5km away.

- [Figure 4](#). Potassic phoscorite mineralization at Pike Zone is concentrated in steeply dipping veins in Hole 13, within a broad alteration envelope containing +0.5% TREO and 2% phosphate;
- [Figure 5](#). Mineralization at South Rim shows the same correlation between TREOs and apatite as it does in Hole 13 at Pike Zone, and it can be traced along a controlling east-west structure.

From VR's CEO, Dr. Michael Gunning, "REE mineralogy is crucial towards the economic viability of any REE deposit. The strongest recoveries are generally achieved from simple phosphate mineralogies, as opposed to complex mineralogy amongst silicate or refractory minerals, augmented further by coarse-grained minerals compared to fine grained, and Hecla-Kilmer is clearly heading down both pathways. As such, we intend to advance the Phase I mineralogy work now complete at SGS to Phase II beneficiation studies in Q1 2024 in order to evaluate apatite - fluorocarbonate mineral separation and concentration.

The new data reported here clarify the importance of **apatite** for the REE hydrothermal system at H-K:

- First, at **7.3% TREO**, the apatite is uniquely enriched in REEs overall compared to other carbonatite deposits, and especially in neodymium which is used in electric vehicle motors;
- Second, with **25% Magnet REO**, the REE mineralization at H-K is uniquely enriched compared to most carbonatite deposits, and especially in the heavy rare earths (HREE), which like neodymium are essential in permanent magnets, yet there is no domestic HREE production in North America;
- Third, the apatite is both coarse grained and crystallographically pure compared to apatite in sedimentary-hosted phosphate deposits;

- *Finally, it is the sheer volume and abundance of the phosphate mineral within the overall hydrothermal system at H-K that should not be overlooked, as the phosphate itself adds value to the polymetallic mineralization given its increasing role in battery technology variants for EV's.*

We consider these new chemical data from the laser ablation ICP-MS robust because they are consistent with the preliminary results we received from an array of state-of-the-art technologies utilized from the very beginning of our exploration in 2020, including whole-core XRF scanning by GeologicAI, QEMSCAN and TIMA mineralogy by SGS, lithium-borate fusion ICP-MS geochemistry for trace REE detection by ALS, and scanning electron microprobe analyses of individual mineral grains by RGS Inc. in London, Ontario. Further, and perhaps even more important, the new REE mineral chemistry data are consistent across 2.5 km of the polyphaser igneous complex at H-K, from South Rim to Pike Zone.

*Based on these results, we are excited to embark on a partnership with Novamera Inc. to explore the potential of their innovative, surgical mining technologies on the large-footprint **REE+P+Nd** hydrothermal system which comes to bedrock surface at H-K. We believe this collaboration could help unlock the unusual PMREO value in the REE veins at Hecla-Kilmer, and contribute positively to minimizing the environmental impact of the project in the lower James Bay region. In ongoing collaboration with SGS, and potentially with the SRC in Saskatchewan for REE extraction, we look forward to the journey with Novamera to evaluate if H-K can contribute to the growing demands of the energy transition economy.*

Finally, I wish to convey my sincere appreciation to the Ontario MNM for the recognition and support of our Hecla-Kilmer project through the OJEP critical metals exploration program. The grants awarded to Hecla-Kilmer continue to make a material difference to our ability to advance this discovery.

Bulk Sample

REE critical metals were discovered at Hecla-Kilmer in the very first reconnaissance drill program in 2020, with 24 holes completed to-date across the multiphase alkaline igneous complex. Drill hole locations and key REE intersections are summarized in [Figure 6](#).

Crushed drill core assay rejects from the 461 metre intersection of continuous REE mineralization in Hole 013 were submitted to the SGS Lakefield laboratory in Ontario in May as a bulk sample for a mineralogical, beneficiation and metallurgical study. SGS is a recognized world leader in mineralogical and metallurgical studies on REE mineral systems. The intersection used for the bulk sample includes:

- **361 m @ 0.96 % TREO⁽¹⁾** of which **20% are PMREO⁽²⁾** and **2% P₂O₅** and including:
 - **39 m @ 2.01 % TREO** with **22% as PMREO**.

The new chemical data on apatite are from TESCAN Integrated Mineral Analyzer (TIMA) analyses. Eight initial representative samples spanning the 361 metres of REE mineralization were crushed, sorted and analyzed with TIMA for elemental and mineral mapping of grains ahead of beneficiation studies.

Technical Information

Summary technical and geological information for the Company's various exploration properties is available at the Company's website at www.vrr.ca.

VR submits sawn drill core samples for geochemical assay to the ALS Global Ltd. ("ALS") laboratory facilities in Timmins or Thunder Bay, Ontario, with final geochemical analytical work done at the ALS



laboratory located in North Vancouver, BC., including lithium borate fusion, ICP-MS and ICP-AES analyses for base metals, trace elements and full-suite REE analysis, and gold determination by atomic absorption on fire assay. Analytical results are subject to industry-standard and NI 43-101 compliant QAQC sample procedures, including the systematic insertion of sample duplicates, blanks and certified reference material (CRM) done both externally on the project site by the Company and internally at the laboratory by ALS, as described by ALS.

Technical information for this news release has been prepared in accordance with the Canadian regulatory requirements set out in National Instrument 43-101. Justin Daley, P.Geo., VP Exploration and a non-independent Qualified Person oversees all aspects of the Company's mineral exploration projects, and the content of this news release has been reviewed on behalf of the Company by the CEO, Dr. Michael Gunning, P.Geo., a non-independent Qualified Person.

About the Hecla-Kilmer Property

The Hecla-Kilmer complex is located 23 km northwest of the Ontario hydro-electric facility at Otter Rapids, the Ontario Northland Railway, and the northern terminus of Highway 634 which links the region to the towns of Cochrane and Kapuskasing to the south, itself located on the northern Trans-Canada Highway.

The H-K property is large. It consists of 224 mineral claims in one contiguous block approximately 6 x 7 km in size and covering 4,617 hectares. The property is owned 100% by VR. There are no underlying, annual lease payments on the property, nor are there any joint venture or back-in interests. Hecla-Kilmer is located on provincial crown land, with mineral rights administered by the Ontario Ministry of Northern Development, Mines, Natural Resources and Forestry ("MNDM"). There are no annual payments, but the MNDM requires certain annual exploration expenditures and reporting. The property falls within the traditional territories of the Moose Cree and Taykwa Tagamou First Nations.

About VR Resources

VR is an established junior exploration company based in Vancouver (TSX.V: VRR; Frankfurt: 5VR; OTCQB: VRRCF). VR evaluates, explores and advances opportunities in copper, gold and critical metals in Nevada, USA, and Ontario, Canada, and most recently, a kimberlite breccia pipe discovery in northern Ontario. VR applies modern exploration technologies and leverages in-house experience and expertise in greenfields exploration to large-footprint mineral systems in underexplored areas/districts. The foundation of VR is the proven track record of its Board in early-stage exploration, discovery and M&A. The Company is well-financed for its mineral exploration and corporate obligations. VR owns its properties outright and evaluates new opportunities on an ongoing basis, whether by staking or acquisition.

About Novamera

Novamera is a surgical mining technology company that has developed data-driven hardware and software solutions that pinpoint, map, navigate and extract high value narrow vein deposits. Novamera's precision drilling products integrate with conventional drilling equipment to enable mining companies to quickly and sustainably mine various metal and mineral deposits that are otherwise uneconomic due to size, geometry, and orientation. The process has large scale environmental and social impacts to support ESG targets and improve social licence. Requiring a small footprint with no blasting, and with immediate environmental rehabilitation as drilling progresses, the process balances operational efficiency with environmental care, with 95% less waste, 44% less GHG emissions and 99% less water discharge.



ON BEHALF OF THE BOARD OF DIRECTORS:

“Michael H. Gunning”

Dr. Michael H. Gunning, PhD, PGeo
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Forward Looking Statements

This news release contains statements that constitute "forward-looking statements". Such forward looking statements involve known and unknown risks, uncertainties and other factors that may cause the Company's actual results, performance or achievements, or developments in the industry to differ materially from the anticipated results, performance or achievements expressed or implied by such forward-looking statements. Forward-looking statements are statements that are not historical facts and are generally, but not always, identified by the words "expects," "plans," "anticipates," "believes," "intends," "estimates," "projects," "potential" and similar expressions, or that events or conditions "will," "would," "may," "could" or "should" occur. Forward-looking statements in this document include statements concerning VR's expectations concerning the Hecla-Kilmer property and all other statements that are not statements of historical fact.

Although the Company believes the forward-looking information contained in this news release is reasonable based on information available on the date hereof, by their nature forward-looking statements involve assumptions, known and unknown risks, uncertainties and other factors which may cause our actual results, performance or achievements, or other future events, to be materially different from any future results, performance or achievements expressed or implied by such forward-looking statements.

Examples of such assumptions, risks and uncertainties include, without limitation, assumptions, risks and uncertainties associated with general economic conditions; the Covid-19 pandemic; adverse industry events; future legislative and regulatory developments in the mining sector; the Company's ability to access sufficient capital from internal and external sources, and/or inability to access sufficient capital on favorable terms; mining industry and markets in Canada and generally; the ability of the Company to implement its business strategies; competition; and other assumptions, risks and uncertainties.

The forward-looking information contained in this news release represents the expectations of the Company as of the date of this news release and, accordingly, is subject to change after such date. Readers should not place undue importance on forward-looking information and should not rely upon this information as of any other date. While the company may elect to, it does not undertake to update this information at any particular time except as required in accordance with applicable laws.

This news release may also contain statements and/or information with respect to mineral properties and/or deposits which are adjacent to and/or potentially similar to the Company's mineral properties, but which the Company has no interest in nor rights to explore. Readers are cautioned that mineral deposits on similar properties are not necessarily indicative of mineral deposits on the Company's properties.

Trading in the securities of the Company should be considered highly speculative. All of the Company's public disclosure filings may be accessed via www.sedarplus.ca and readers are urged to review them.

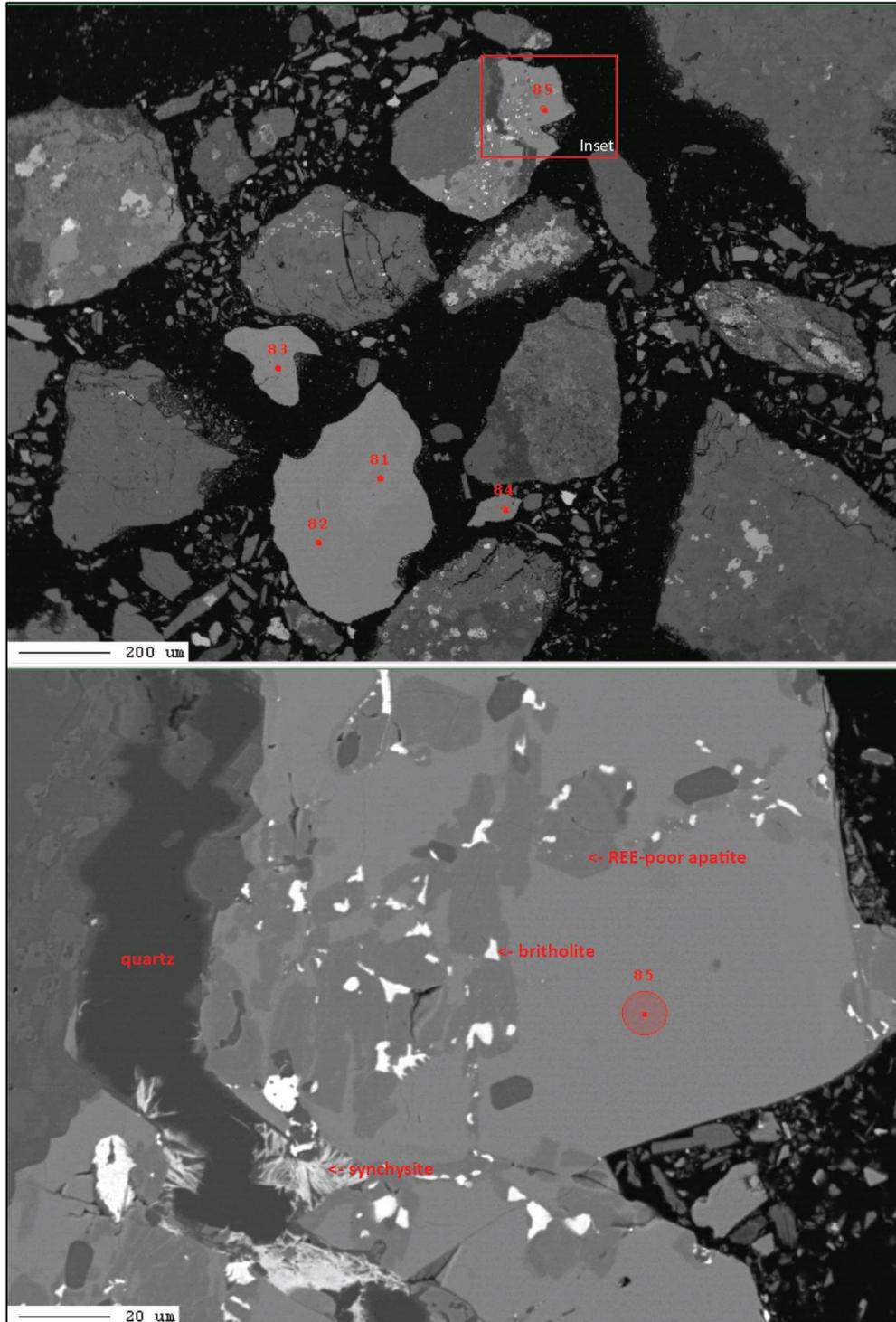


Figure 1. Upper: Backscatter electron microprobe images of crushed and mounted mineral grains from hole 13 bulk sample. Grains are predominantly of apatite with Laser Ablation ICP-MS site annotated in red. Varying shades of dull grey indicating varying and zoned REE in apatite. Lower: Inset of upper image showing detail of bright white reflectance REE minerals monazite, britholite and synchysite within **apatite**. This style of REE mineralization, with **Nd, Pr, Tb** and **Dy** enriched in monazite and synchysite inclusions within the apatite compared to within the large apatite crystals themselves is also found at both South Rim and Pike Zones located 2.5 km apart (**Figure 6**).

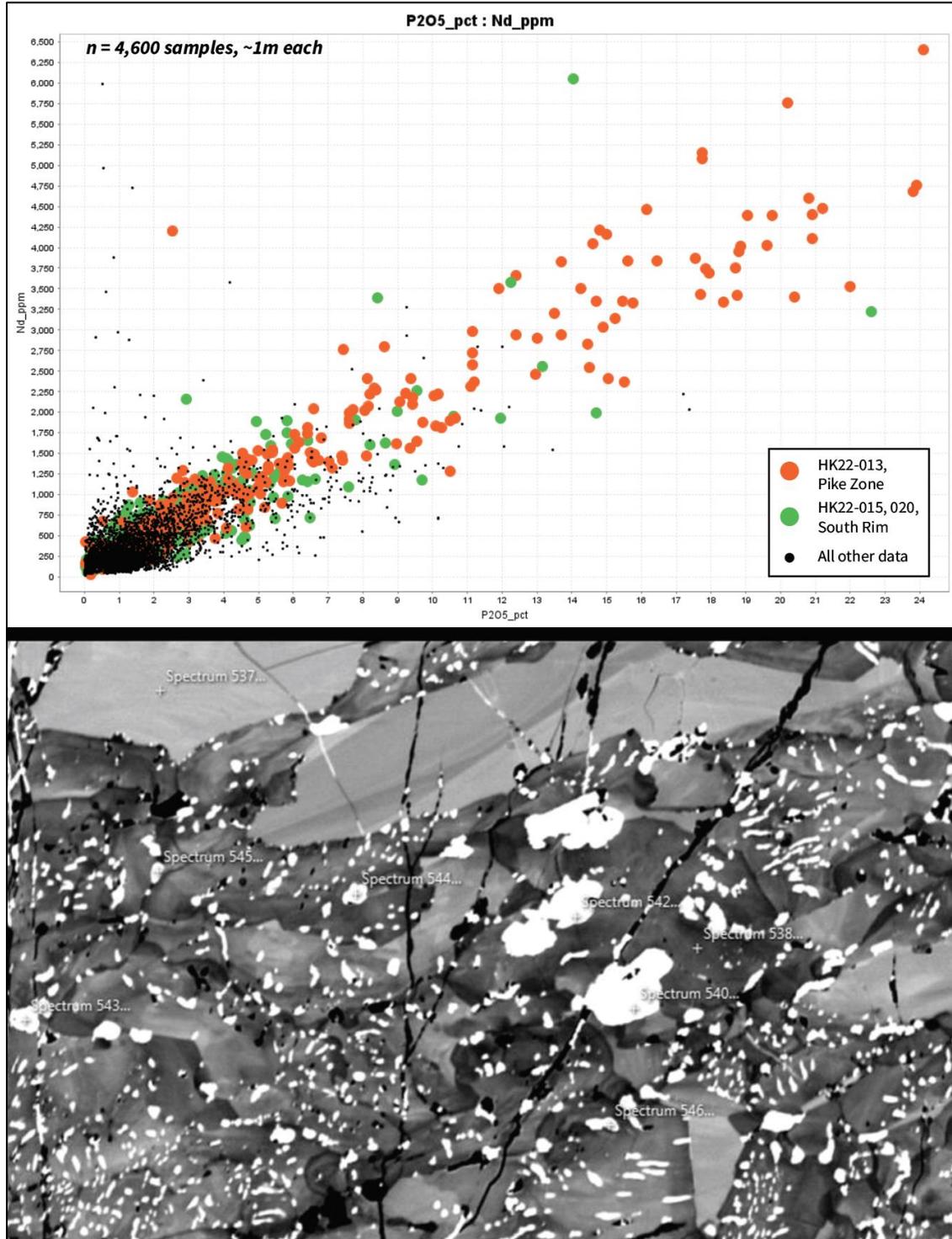


Figure 2. Upper: Geochemical plot of P₂O₅ vs. Nd based on data from 4,600 drill core samples across all 24 holes completed to date at Hecla-Kilmer. The correlation is robust in a data set of **4,600 samples**, and it increases in potassic zones from holes 13, 15 and 20 shown, and reinforces the new bulk sample mineralogy data from SGS Lakefield. Lower: Backscatter electron microprobe image from 111m depth in Hole 15 at the South Rim Zone. The abundant areas of bright white reflectance are mineral inclusions of REE-bearing **monazite** within larger and REE-zoned crystals of **apatite**.

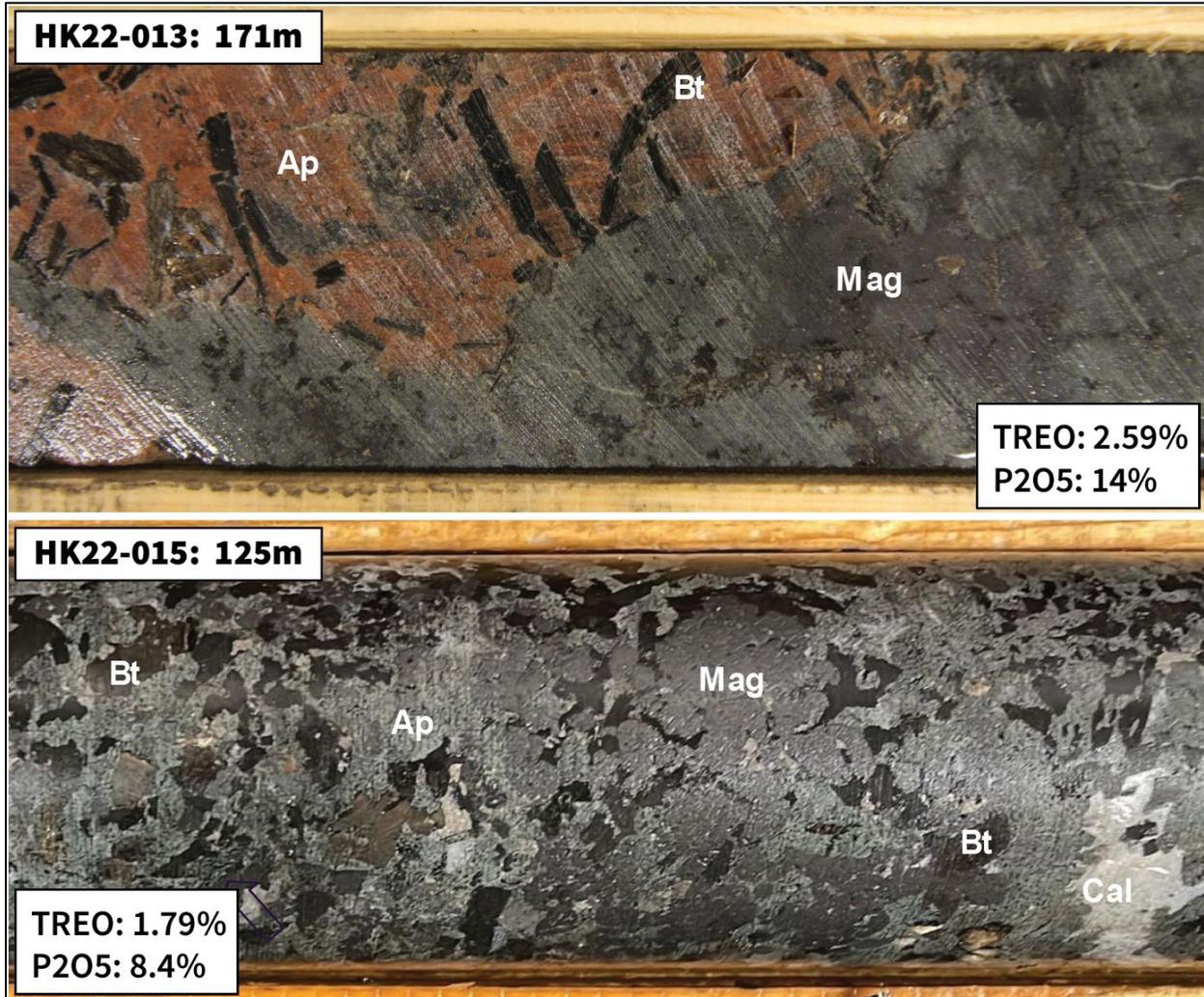


Figure 3. Examples of high temperature potassic phoscorite with high-grade TREO and phosphate mineralization, and a high PMREO ratio found in hole 13 at Pike Zone and in hole 15 and 20 at South Rim Zone. The biotite-magnetite assemblage in massive apatite groundmass is a clear visual sign for high grade mineralization at Hecla-Kilmer.

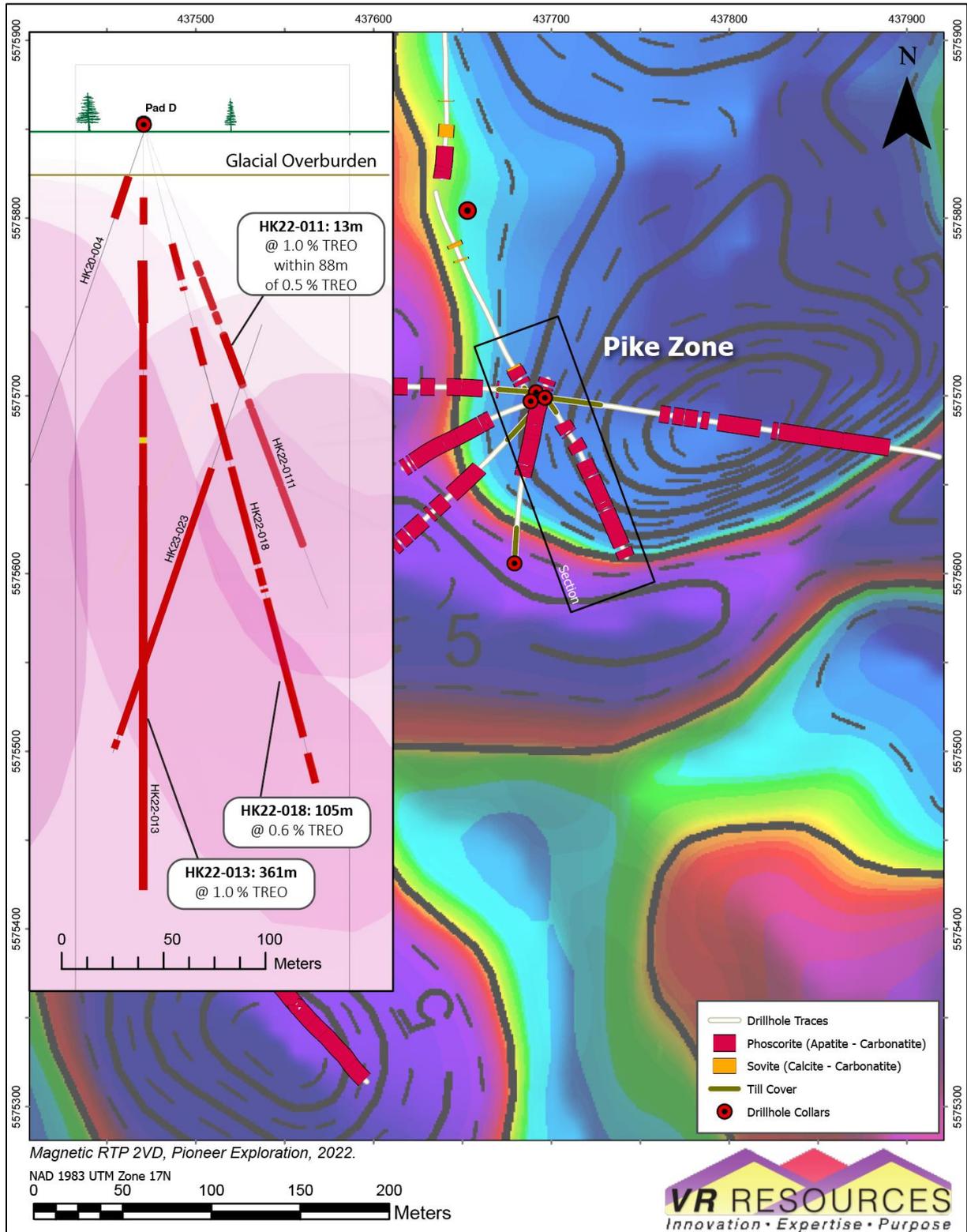


Figure 4. Drill holes and phosphate – REE drill sections at Pike Zone shown on a magnetic plan map and inset drill section. Red intervals of phoscorite veining contain an average 2% P₂O₅ or more in this broad area of complex steep structural control and widespread fenite mineralization >0.5% TREO.

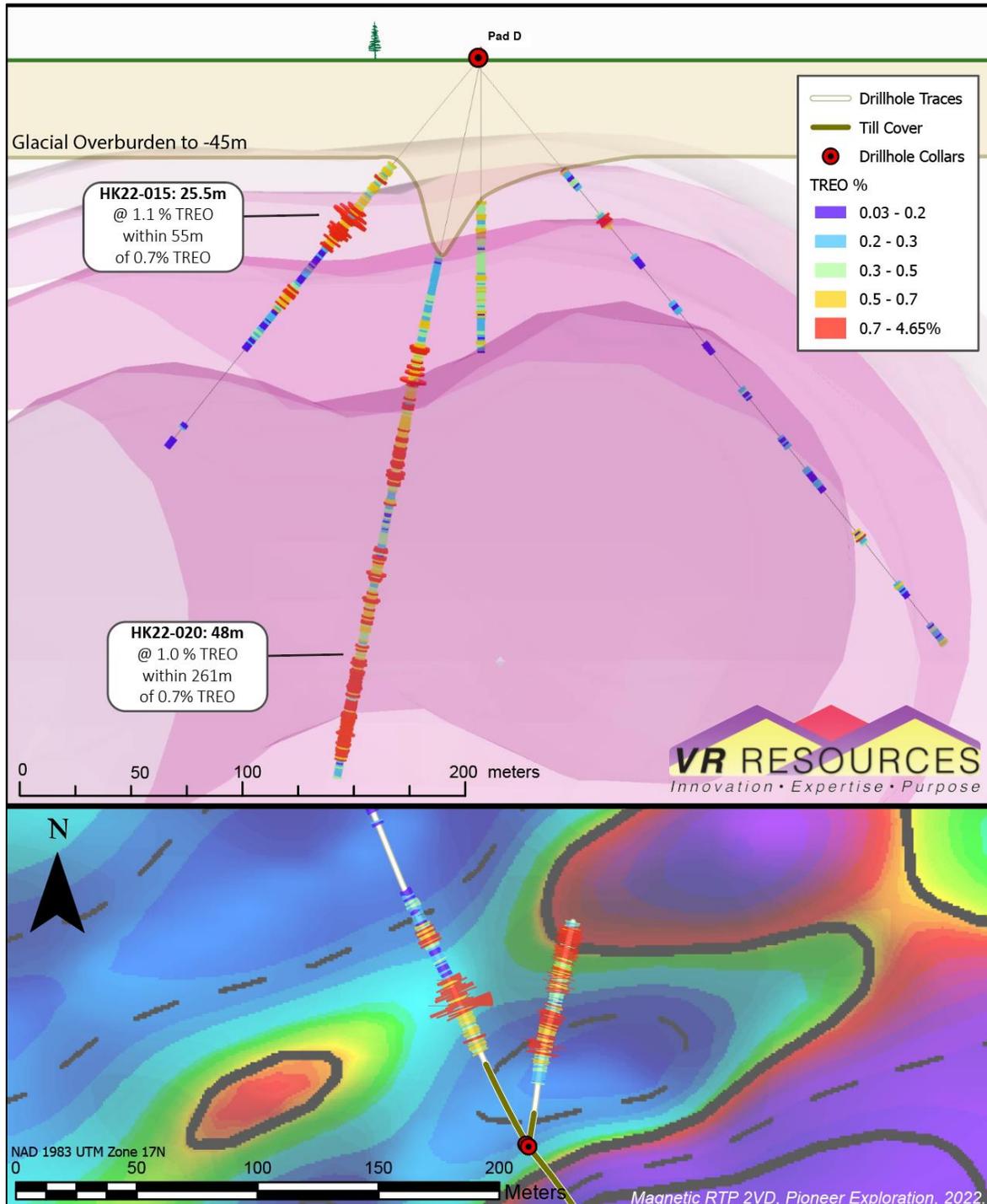


Figure 5. Drill hole intersections of structurally controlled phosphate – REE mineralization at South Rim located 2.5 km south of Pike Zone shown in Figure 2. The steeply dipping mineralization appear laterally and vertically continuous on the drill section through the 3D MVI magnetic inversion model, and plan map below showing drill traces on an RTP magnetic base map.

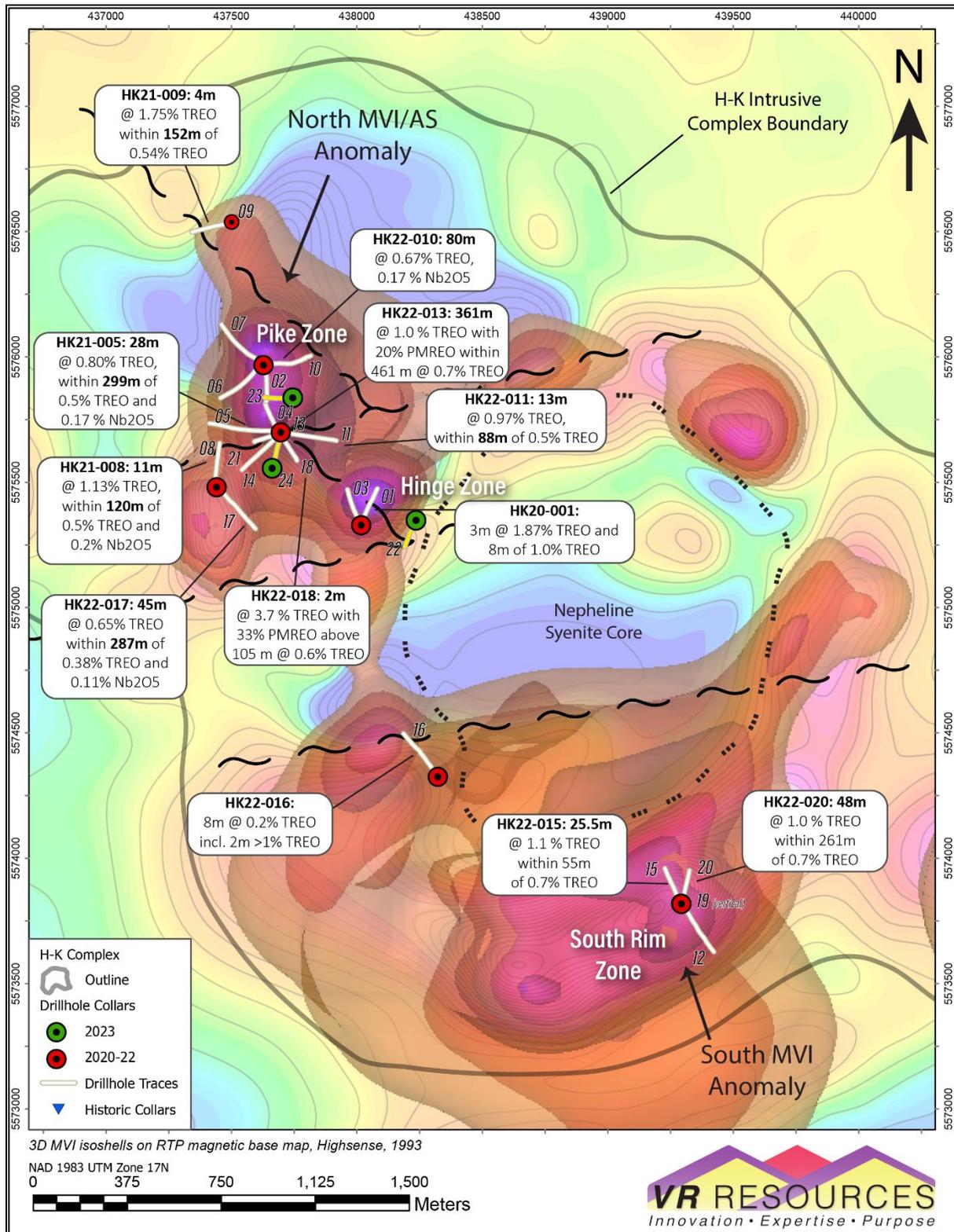


Figure 6. Locations and key REE intersections for the 24 drill holes completed to date at Hecla-Kilmer, 2020 - 2023, plotted on a contoured RTP magnetic base map with superimposed 3D iso-shells from the MVI inversion.