

# VR Resources Ltd. Outlines Plans for Q1 2024 to Advance its REE Discovery at Hecla-Kilmer

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[VR Resources Ltd.](#) (TSXV:VRR) (FSE:5VR) (OTC:VRRCF), the "Company", or "VR", is pleased to provide an update on work planned in Q1 2024 to continue advancing the REE discovery at its Hecla-Kilmer project located in northern Ontario.

VR's goal is to assess the potential for the first sustained rare earth element production, including the Permanent Magnet Rare Earth Oxides (PMREO) Nd, Pr, Tb and Dy, in Canada. Plans for Q1 2024 include:

1. Phase 2 Metallurgical Studies: Completion of Phase II metallurgical studies at SGS, to evaluate the recovery and beneficiation processes for an apatite-monazite mineral concentrate.
2. REE Mineral Volume Assessment: Evaluation of REE mineral volume potential at the Pike Zone, Hinge Zone and South Rim Zone, in vein breccia on sub-vertical structures with 1% Total Rare Earth Oxide (TREO) on average, with PMREO content from 18% to 24%.
3. Economic Scoping of Mining Methods: Collaboration with Novamera Inc., Toronto, to evaluate the use of small footprint, low impact, surface bore hole surgical mining methods.
4. Alignment with Pilot Plant Designs: Ongoing discussion with SRC, Saskatoon, to align REE mineralization at Hecla-Kilmer with new REE extraction plants in North America.
5. Digital Compilation of Magnetic Surveys: Compile all regional and property-scale magnetic surveys covering VR's expanded land holdings across 15 properties in the region and integrate with the high-resolution surveys completed by VR during the past four years.
6. Stakeholder Engagement: Continuation of open communication and collaboration with both the Ontario government (MNDM) and the Moose Cree First Nation.

## Mineralogy Matters

There are proven and cost-effective extraction processes and new extraction plants in North America for the REE-bearing mineral assemblage of apatite and monazite which occurs at Hecla-Kilmer.

Results from Phase 1 of the bulk sample mineralogy study completed at SGS Lakefield in Ontario in 2023 are positive. They confirm that the phosphate mineral apatite is the primary REE host, and it is uniquely enriched: published resources for LREE carbonatite deposits in Canada typically contain between 12-15% PMREO of TREO, which is roughly 40% lower than the 18-24% proportion in the bulk sample from H-K.

Figure 1 emphasizes the value potential of the REE mineralization at H-K because of the high value of the two heavy REEs (HREE) that go into permanent magnets: dysprosium and terbium.

As previously reported, and summarized in full on the Company's website at [www.vrr.ca](http://www.vrr.ca) :

- Apatite contains approximately 80% of all REEs at H-K;
- Apatite is 7.3 % TREO on average, with REE in the crystal lattice and in monazite inclusions;
- High value permanent magnet REEs (PMREO) are up to 25% of TREO in the apatite;
- 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 2%, starting at surface;



- The apatite is both coarse grained and crystallographically pure compared to apatite in sedimentary-hosted phosphate deposits.

Canada is plagued with REE discoveries made during the past 60 years that have never been developed for two main reasons: First, most REE carbonatite deposits are enriched only in LREE (neodymium and praseodymium), and second; where HREE-rich deposits do occur, the silicate REE mineralogy is too difficult or costly to extract. The REE mineralogy at Hecla-Kilmer is a clear distinction.

There is no REE production in Canada, and no HREE production across North America, period. As such, the sector is attracting strong support from provincial and federal government programs in both Canada and the United States as resource demands shift in relation to new sustainable technologies in the emerging Green Economy. Hecla-Kilmer is on the radar screen: it has been awarded in all three years of the Ontario OJEP program.

### Size Matters

Hecla-Kilmer is a large and multiphase, alkaline ultrabasic intrusive complex with carbonatite approximately 4 - 6 km across. There was modern, systematic exploration or drill-testing of the complex for a large-scale, magnetite-fluorite-apatite hydrothermal breccia system with critical metals prior to VR.

REEs were discovered at Hecla-Kilmer by VR in its second drill hole, during the very first reconnaissance drill program in 2020. A total of 9,979 m of drilling has been completed in 24 drill holes in five programs since, with REE mineralization of > 1% TREO intersected in 18 of the 24 holes.

Vertical apatite-carbonate vein and vein breccia systems are consistently concentrated in REEs across some 2.5 km of the complex. The higher grade mineralization occurs within a km-scale footprint of high temperature, potassic alteration (fenite) dominated by hydrothermal biotite and magnetite; it occurs along abrupt, original intrusive host rock contacts, and is commonly structurally controlled.

VR plans to complete an independent, 3D model for REE mineralization volumes at Hecla-Kilmer. It will use continuous geochemical and magnetic susceptibility data obtained from all 24 drill holes. Further constraints from the 3D magnetic inversion models derived from the high-resolution drone survey in 2022, and the high-resolution ground gravity data obtained in 2021 will improve the outlines for mineral volume potential based on the various REE drill intersections.

Figure 2. Magnetic map showing zones discovered to date with >1% TREO mineralization.

### Location Matters

VR plans to evaluate the small footprint, low impact, surface bore hole surgical mining method being developed by Novamera Inc., Toronto, for the high grade veins, dykes and breccia bodies at Hecla-Kilmer based on the polymetallic nature of the REE mineralization including phosphate and niobium and the unique enrichment of the heavy PMREO - yes - but also because of its location attributes.

Figure 3. Apatite-enriched REE mineralization occurs at bedrock surface at the base of till, and just 23 km from active rail, highway and provincial power grid infrastructure at Otter Rapids.

The presence of PMREO aside, the logistical attributes of Hecla-Kilmer cannot be over-stated, and the exclamation point is its location in a province demonstrating active support for a domestic supply of critical metals for the EV auto industry in Canada!

### 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](http://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 10 multi-cell 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.

ON BEHALF OF THE BOARD OF DIRECTORS:

"Michael H. Gunning"

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Dr. Michael H. Gunning, PhD, PGeo

President & CEO

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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](http://www.sedarplus.ca) and readers are urged to review them.

Neither the TSX Venture Exchange nor its Regulation Services Provider (as that term is defined in Policies of the TSX Venture Exchange) accepts responsibility for the adequacy or accuracy of this release.

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Figure 1. Photograph of drill core from 174 m depth in hole HK22-013 at Pike Zone, within the middle part of the 461 m intersection of continuous REE mineralization starting at bedrock surface at the base of till, and open at the end of the hole at 503m. The REE-bearing apatite-carbonate vein breccia is associated with a potassic alteration assemblage (fenite) dominated by hydrothermal biotite and magnetite which completely replaces the original intrusive host rock. The apatite is coarse grained and crystallographically pure. It is uniquely enriched in REE, with 7.3 % TREO on average, and 18-24% PMREO; the REE is mainly in the crystal lattice, and also in monazite inclusions within the apatite. The lower graphic illustrates the importance of the two HREEs, terbium and dysprosium, towards the implied basket value for Hecla-Kilmer compared to most LREE carbonatites.

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Figure 2. Magnetic map of the multiphase Hecla-Kilmer complex, with red ellipses showing areas of mineral volume potential with >1% TREO. Red dots are collar locations for 24 drill holes completed in 5 programs since 2020. For reference, Pike Zone and South Rim are approximately 2.5 km apart.

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Figure 3. Besides the unique REE enrichment of apatite at Hecla-Kilmer and the implied basket value of polymetallic mineralization including terbium and dysprosium, the economic scoping of surgical mining at Hecla-Kilmer builds upon this series of photos: the apatite-carbonate-magnetite REE mineralization in the middle photo comes to bedrock surface at the base of till below a typical drill site shown in the upper photo at Pike Zone, itself just 23 km from the infrastructure at nearby Otter Rapids shown in lower photo.

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