Vital's optimized MRE delivers 56% increase in Measured + Indicated resources for Tardiff rare earth deposit

Highlights:

- **New Tardiff MRE total resource tonnage (across all categories) of 192.7 million tonnes at 1.3% total rare earth oxide (TREO), containing 2.5Mt TREO.**
- **Tardiff is estimated to contain 636,000 tonnes of NdPr (neodymium oxide + praseodymium oxide).**
- **Incorporating all the latest drilling data this new estimate, compared to the April 2024 MRE, delivers:**
  - **70% increase in reported tonnes in the Indicated Resource category;**
  - **56% increase in reported tonnes in Measured + Indicated Resource categories;**
  - **2% increase in contained NdPr;**
  - **Niobium (Nb_2O_5), hosted within the same geological formations hosting the rare earth mineralisation, reported for the first time.**
- **Current MRE is reported above a 0.7% TREO cutoff grade instead of a metal equivalent value previously used.**
- **Vital is using the updated Tardiff MRE as the basis for a Scoping Study to examine the size and scalability of future production scenarios. This is expected in the coming weeks.**

Vital Metals Limited (**ASX: VML**) ("**Vital**", "**Vital Metals**" or "the **Company**") is pleased to report an updated Mineral Resource estimate ("**MRE**") for the Tardiff Upper Zone ("**Tardiff**"), part of the Nechalacho Rare Earths Project (the "**Project**"), located in Northwest Territories (NWT), Canada.

The current MRE follows Vital's completion of resource definition drilling program at Tardiff in 2023, totalling 74 holes for 6,664m, which returned high-grade results up to 8% TREO.

The current MRE features a total resource tonnage (across all categories) of 192.7Mt grading 1.3% TREO and 0.3% Nb_2O_5, containing 2.52Mt TREO including 636,000t of NdPr.

Vital Managing Director and CEO Lisa Riley said: *"Our updated MRE for the Tardiff deposit shows increased confidence in the deposit, with a 70% increase in the Indicated Resource tonnages and a 56% increase in the Measured + Indicated Resource tonnages compared to our April 2024 historical MRE, while our Inferred Resource tonnages have decreased by more than 20%. While our overall totals of contained TREO and NdPr have only slightly increased on the April 2024 historical MRE, based on the drilling we completed in 2023, we now have* *more confidence that this is a truer representation of what this deposit holds.*

"The current MRE is the final piece awaited for inclusion in our Tardiff Scoping Study, which is now due for delivery in the coming weeks."

Vital VP Exploration Natalie Pietrzak-Renaud: "*The positive changes to the current MRE compared to the April 2024 historical MRE is largely based on the inclusion of the 2023 drill results, the 2024 metallurgical test results we obtained from our 2023 collected composite Tardiff sample, and the carefully considered metrics we used as inputs. Our approach is to establish outputs that are realistic pathways for project development. With the work we completed on the MRE and the forthcoming Scoping Study, we have, and continue, to build a solid foundation of data and knowledge to advance our project.*"

The Tardiff MRE is reported within an optimized open-pit shell using Studio NPVS from the Datamine Suite. The optimized pit shell was generated using a 45° maximum final pit wall, and a 150m RL lower pit limit.

Tardiff contains rare earth element ("**REE**") and Niobium mineralisation hosted within a nepheline syenite intrusion. Recent metallurgical test work indicates strong potential to produce neodymium oxide (Nd_2O_3) and praseodymium oxide (Pr_6O_{11}), which are light rare earth oxides (LREO) with magnetic properties and are in demand due to their use in technologies such as high-strength magnets, aircraft engines, and various industrial and electronic applications. The recent metallurgical test work also indicates an opportunity to further investigate and advance the potential opportunity to recover niobium minerals from Tardiff ore. Niobium is in demand due to its low oxidation point and relatively high melting point. It is used as an alloy in aeronautic engines, electronic applications (due to its superconducting properties) and as an additive to lithium-ion batteries to enhance battery life.

The current MRE represents a significant increase in reported tonnes in the Indicated Mineral Resource category in comparison to the historical MRE completed in April 2024 and a decrease in reported tonnes in the Inferred Mineral Resource category. The current MRE is also reported above a 0.7% TREO cutoff grade instead of a metal equivalent value as previously used.

The MRE is presented in Table 1 and is reported above a cutoff grade of 0.7% total rare earth oxides (TREO). The Mineral Resource estimate includes reporting of Nd_2O_3 and Pr_6O_{11}, NdPr (Nd_2O_3 plus Pr_6O_{11}) and Nb_2O_5.

Table 1. Tardiff Mineral Resource Estimate, TREO ≥ 0.7%

JORC Resource Classification	Tonnage	Average Grade (%)				Contained Oxide	
	Mt	TREO	Nd_2O_3	Pr_6O_{11}	Nb_2O_5	TREO Kt	NdPr Kt
Measured	7.6	1.48	0.28	0.08	0.24	112	27
Indicated	41.0	1.29	0.25	0.07	0.25	528	131
Measured + Indicated	48.6	1.32	0.26	0.07	0.25	640	158
Inferred	144.1	1.31	0.26	0.07	0.32	1,883	477
Total	**192.7**	**1.31**	**0.26**	**0.07**	**0.30**	**2,523**	**636**

Notes:

1. Due to effects of rounding, the total may not represent the sum of all components.
2. TREO (ppm) includes: Light Rare Earth Oxides (LREO): La_2O_3, CeO_2, Pr_6O_{11}, Nd_2O_3, Sm_2O_3; and Heavy Rare Earth Oxides (HREO): Tb_4O_7, Dy_2O_3, Ho_2O_3, Er_2O_3, Tm_2O_3, Yb_2O_3, Lu_2O_3, Eu_2O_3, Gd_2O_3; + Y_2O_3
3. Mineral Resource is reported from blocks at or above the 150 m RL and within unconstrained optimised open pit shell "Optimized_Pits_2_Pit_85_100tr/pt"
4. Revenue in cutoff grade calculation is attributable to Nd_2O_3 and Pr_6O_{11}
5. NdPr = Nd_2O_3 + Pr_6O_{11}
6. Mineral Resources that are not Mineral Reserves do not have demonstrated economic viability.
7. The Mineral Resource effective date is 18th December.

The MRE features a total resource tonnage (across all categories) of 192.7 Mt grading 1.3% TREO and 0.3% Nb_2O_5 containing 2,523 Kt TREO including 636 Kt of NdPr. The MRE is reported within an optimized open pit shell using Studio NPVS from the Datamine Suite. The optimized pit shell was generated using a 45 degree maximum final pit wall, and a 150 m RL lower pit limit. The optimized pit shell is presented in Figure 1 as the unconstrained pit.

The Competent Persons (CPs) are of the opinion that the Tardiff deposit is of sufficient grade, quantity, and coherence to meet the criteria for reasonable prospects for eventual economic extraction (RPEEE). The Tardiff deposit is located 100 km southwest of Yellowknife, NWT via helicopter and is also readily accessible by boat and then a short distance by road to the Project area. Mineralisation outcrops in places, and otherwise covered by up to 20 m of overburden (tillite) and / or unmineralized, or low grade syenite. Canada is a mature mining jurisdiction and supports the development of renewable energy and critical minerals, subject to the required environmental and social license approvals. The MRE is reported within an optimised open-pit shell with appropriate costs and mining parameters applied to the optimisation process.

The Project is at an early stage of appraisal and studies are required to assess environment and social governance (ESG) issues. Some Indicated and Measured Mineral Resources are located below two small lakes, and Vital has advised the CP that these lakes are very shallow, freeze completely in winter, and host no fish. The Competent Person therefore considers there to be RPEEE for reporting Mineral Resources below these two small lakes. A significant proportion of the Inferred Mineral Resource is located beneath Thor and Long Lakes (refer to Figure 1). These lakes are relatively shallow (<5 m in depth) but contain significant volumes of water. The RPEEE considered (at a high level) whether it would be feasible to dewater the lakes to allow open-pit mining, and what the ESG considerations would be if the lakes were drained. Dewatering of the larger lakes may be possible, with appropriate pumps and drainage options, such as into Great Slave Lake, however detailed studies by appropriate technical experts are required. Other avenues of development are possible including underground extraction and should be investigated.

Vital recognizes that ongoing and in-depth discussions are required to identify and address specific concerns, limitation parameters and conditions for resource development, including the potential for extraction under the lake, which will be incorporated into the project development. Preliminary discussions with local communities suggest that the Thor and Long lakes do not hold specific historical or cultural significance. There is anecdotal evidence that suggests the lakes are host to species that are not on the endangered species lists. Discussions are underway and will continue to evolve during the advancement of the project.

The Competent Person is of the opinion that Vital needs to carry out considerable work to understand the ecology of the lakes, and to gain a firm understanding of the local communities' consideration of the lakes, which should be carried out in the near term. Work will include evaluation of the alternative potential for underground extraction. This work will support current and future mining studies. Until then, the Competent Person is of the opinion that RPEEE considerations are met to report a MRE beneath the lakes.

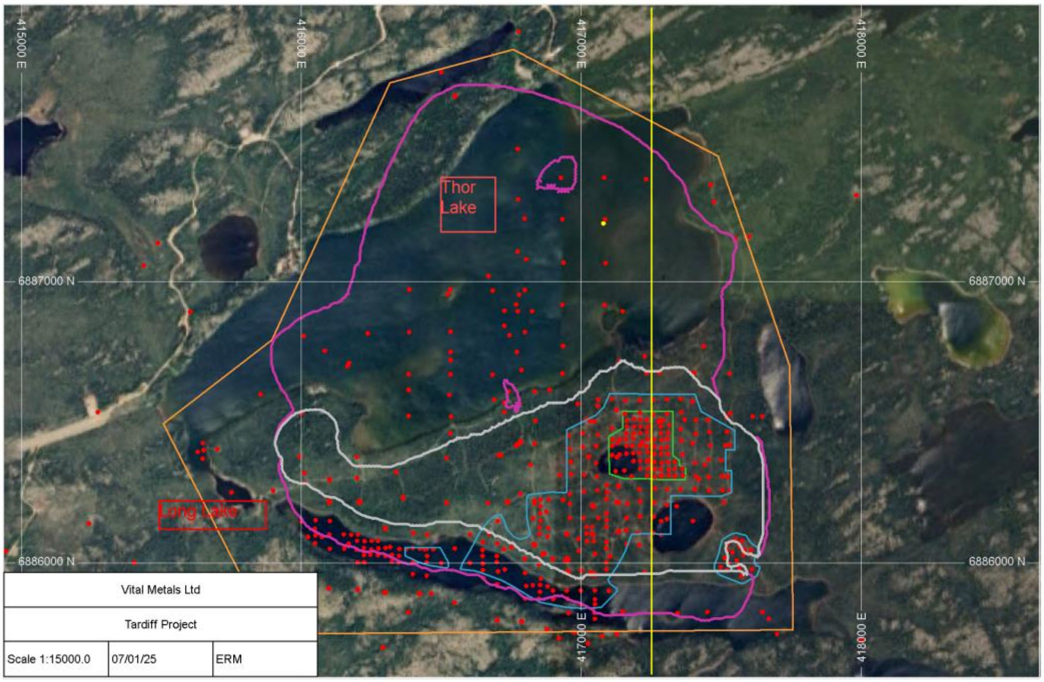

Figure 1: Drill hole collar plot – Tardiff drilling 2023

Notes for Figure 1: Drill hole collars (red), Mineral Resource (constrained) optimized pit shell outline (grey), unconstrained optimal pit shell (magenta) as used for reporting of Mineral Resource, Measured resource classification polygon (green), Indicated polygon (cyan), Inferred polygon (orange). Satellite image of project presented as an underlay, showing Thor and Long Lakes, and two small lakes within the Measured and Indicated footprint. Yellow line is Easting 417250 as referenced in Figures 2 and 3.

Geology and Geological Interpretation

The Tardiff deposit is hosted near the top of a layered nepheline syenite intrusion, which is part of an anorogenic alkaline intrusive complex, the Paleoproterozoic Blatchford Lake Igneous Complex. The Tardiff deposit consists of a series of rocks with increasing peralkaline characteristics at depth. It is virtually undeformed, and the rock units and mineralisation are generally sub-horizontal and can be traced for hundreds of metres. The REE mineralisation is hosted in hydrothermally altered syenite collectively referred to as the Upper and Basal Zones and the REE are mainly contained in the minerals bastnäsite-(Ce), synchysite-(Ce), parasite-(Ce), fergusonite-(Y), samarskite-(Y), allanite-(Ce), and monazite-(Ce). Niobium mineralisation is dominantly contained in ferrocolumbite and fergusonite-(Y).

REO mineralisation at Tardiff is layered in separate zones of light rare earths at the top of the deposit (Upper Zone) and a mixture of light and heavy REO mineralisation in the lower part of the deposit (Basal Zone). The current Tardiff MRE reported here is hosted within the upper zone and is dominated by LREO mineralisation. There are some trends in chemical and mineralogical characteristics in the Nechalacho deposit that have both geological and metallurgical significance. These trends are most apparent in vertical zoning of the deposit with respect to the proportion of heavy rare earth elements (HREE) and light rare earth elements (LREE). In general, the HREE relative to the LREE show a distinct vertical zonation with increasing HREE to depth.

The continuity of REE-mineralization is associated with hydrothermal alteration and mineralogical variations in precursor lithological units. Alteration assemblages of secondary potassium feldspar replacement of early syenite, the destruction of pre-existing mafic minerals and/or the pervasive replacement by magnetite+/-chlorite+/- biotite+/- zircon alteration assemblages are strong visual indicators for higher grade REE-mineralization. The Nb mineralisation broadly follows similar trends of REE mineralisation and variations in grade.

A nominal 0.7% TREO value combined with lithological logging information was used for developing mineralogical wireframes in Leapfrog Geo software (mineralisation models 1, 2, 3, and 4). The cut-off grade was previously used to support the historical estimate (published 4th April 2024) and is supported by analysis of a log-probability plot of sample assays for TREO. Approximately 50% of the TREO assays have grades ≥0.7% TREO. The Leapfrog model used to create the models supporting the previous MRE were updated using drill hole sample analyses from the 2023 drilling, thereby maintaining a consistent approach to the geological interpretation.

Unmineralized country rock lithology, as well as overburden, diabase, and unmineralized syenite were constrained by wireframes.

Drilling Techniques

Diamond core drilling using PQ, NQ, and HQ diameter core tubes with wireline recovery was used for all the drilling at Tardiff. A limited number of oriented core holes were drilled by Avalon for geotechnical purposes. Frozen lake surfaces allow for drilling through the lakes in winter months.

HQ diameter diamond drilling was used for the 2023 drill program by Vital. As the holes were short and vertical no orientations of the 2023 drill cores were undertaken.

A total of 484 drill holes (26,971 m) intersect the mineralisation domains, including 73 holes (4,741 m) drilled by Vital in 2023. Drill spacing is typically 25 m by 25 m in the Measured Mineral Resource area, 50 m by 50 m in the Indicated area, and up to 200 m by 200 m in the Inferred areas. A drill hole collar plot is presented in Figure 1.

Sampling and Sub-sampling Techniques

Samples are splits of the diamond core with average lengths of 1 m (PQ diameter core) or 2 m (NQ and HQ core). For the NQ and HQ core, predominantly half core splits were taken, with some quarter core sample splits also taken. PQ core was fully consumed by sampling within the mineralized zones, as determined by the supervising geologist.

The 2023 core samples were collected from the bastnaesite mineralisation with lengths ranging from 0.35 to 2.45 m, with typical sample length between 1.0 to 2.0 m. The sampling lengths were dictated by the lithology of the core, with half core samples taken and dispatched for sample analysis. Samples in 2007 were submitted to ActLabs for sample analyses, 2008 samples were submitted to ACME, and all samples since 2009 were submitted to ALS Global. All laboratories used are ISO-certified and independent of Vital.

Sample Analysis Methods

NQ and HQ drill core was crushed to 90% passing 10 mesh (2.0 mm). The PQ core was crushed to 6-mesh (approximately 3.3 mm) and approximately 2.0 kg was split off using a rotary splitter which was then crushed to 10-mesh. Splits of 250 g pulps were prepared from the 10-mesh crushed core.

For drill hole samples collected by previous owner Avalon, the REE concentrations were determined using inductively coupled plasma mass spectrometry (ICP-MS) and X-ray fluorescence (XRF) for the highest concentrations by several different geochemical laboratories. Analytical methods include lithium metaborate/tetraborate fusion (Actlabs), in some cases followed by dilute nitric digestion (ACME, ALS) of 0.1 g of pulp followed by multi-element ICP-MS analysis. Samples with high REE values were analyzed via XRF or further diluted using ICP-MS. The analyses of the REE are considered total analyses. Elemental assay results were reported and were converted to their oxides using appropriate stoichiometric conversions. The oxides for the rare earths (REO) were subsequently used for all Mineral Resource estimation studies and reporting.

Appropriate Quality Assurance and Quality Control (QAQC) measures were implemented for all stages of drilling since 2007, which support the MRE. Certified Reference Materials (CRM), blanks, and field and laboratory duplicates were used to monitor the accuracy and precision of sampling and sample analyses.

For the Avalon drilling (2007 – 2014), the pulp of every 10th sample was analyzed by a secondary laboratory. Every 40th sample was a blank and one of several in-house standards was inserted as every 15th sample. Assay batches that did not meet the quality control criteria were re-assayed. For the 2021 to 2023 drilling programs by Vital, blanks and external REE standards supplied by Avalon were inserted at the same ratio as the Avalon drilling programs. Results of the QAQC programs indicate acceptable levels of accuracy and precision of analytical results.

Data Verification and Check Assay Program

The sampling techniques and assay data for the Avalon and Vital Metals drilling programs have been independently reviewed by the CPs for data verification purposes.

The CPs have also reviewed the sampling and QAQC protocols for the 2021-2023 drilling programs and noted no major issues. The CPs highly recommend as part of its revised QAQC and data verification program, Vital Metals complete routine audits of its primary certified and independent assay laboratory including sending a certain number of drill core samples to a secondary certified and independent assay laboratory for comparative testing purposes and to check for any laboratory biases or significant errors. The CPs also reviewed and validated the drill hole database used in the current MRE. Recommendations for updates to Vital Metals' core logging, sampling, and QAQC procedures to meet current mining industry best practices are noted in several sections above.

A total of eight (8) quarter core check assay samples from 2021 and 2023 drill holes were submitted by the CPs to Activation Laboratories Ltd. (ActLabs) for sample preparation and assay analysis using lithium metaborate/tetraborate fusion with subsequent analysis by ICP and ICP/MS. Actlabs is independent of Vital Metals. These check assay samples were collected by the CPs for data verification purposes and for comparing assay results between two independent assay laboratories (original ALS assay results versus ActLabs check assay results).

The presence of REE mineralisation was confirmed in the 8 check assay samples, and the CPs confirm that the ActLabs check assay results were similar to the original ALS assay results from the same sample intervals.

The CPs are of the opinion that sampling methods, sample preparation, security and analytical procedures implemented by Avalon and Vital Metals for the Tardiff deposit are acceptable for the purposes of reporting the current MRE.

Estimation Methodology

A block model with parent cell sizes of 12.5 m (E) by 12.5 m (N) by 5 m(Z) was constructed, with block sizes approximately half the typical drill spacing, which generally supports a Measured or Indicated classification. Blocks and drill sample data were flagged according to the geological and mineralisation envelopes. Drill holes were composited to 2 m intervals, being the typical sample length, and composited sample data were statistically reviewed to determine appropriate top cuts for the REOs. The four mineralisation domains are treated as hard estimation domains, with variograms modelled for all light rare earth oxides (LREO) and selected heavy rare earth oxides and deleterious oxides, such as U_3O_8.

Ordinary kriging (OK) was used to interpolate all REO and Nb_2O_5 grades using three estimation passes and variable sample ellipse orientation using Datamine's Dynamic Anisotropy function. A sample search ellipse with radii 100 m x 100 m x 10 m was used, with minimum 8 samples and maximum 22 samples per block estimate. A maximum of 4 samples per hole per block estimate was used. Top cut and composited sample assays were interpolated. LREO and HREO, and Nb_2O_5 grades were also interpolated into the blocks located between the mineralisation domains. These domains are also hosted in syenite but not constrained by a mineralisation envelope, and were classified as Inferred. Diabase dykes and overburden were not interpolated with grade and assigned a value of 0 ppm for all interpolated oxides. A representative cross section showing block and drill hole grades is presented in Figure 2.

Density measurements were taken from drill core samples every 5 m on a 10 cm size core segment using the Archimedes method (water displacement). A total of 8,865 measurements have been taken since 2007, but no measurements were taken during the 2023 program. Density values were estimated into the block model using inverse distance squared using a single pass estimation. Blocks not estimated were assigned the domain mean density value, including 2.75 t/m^3 for the two main mineralisation zones.

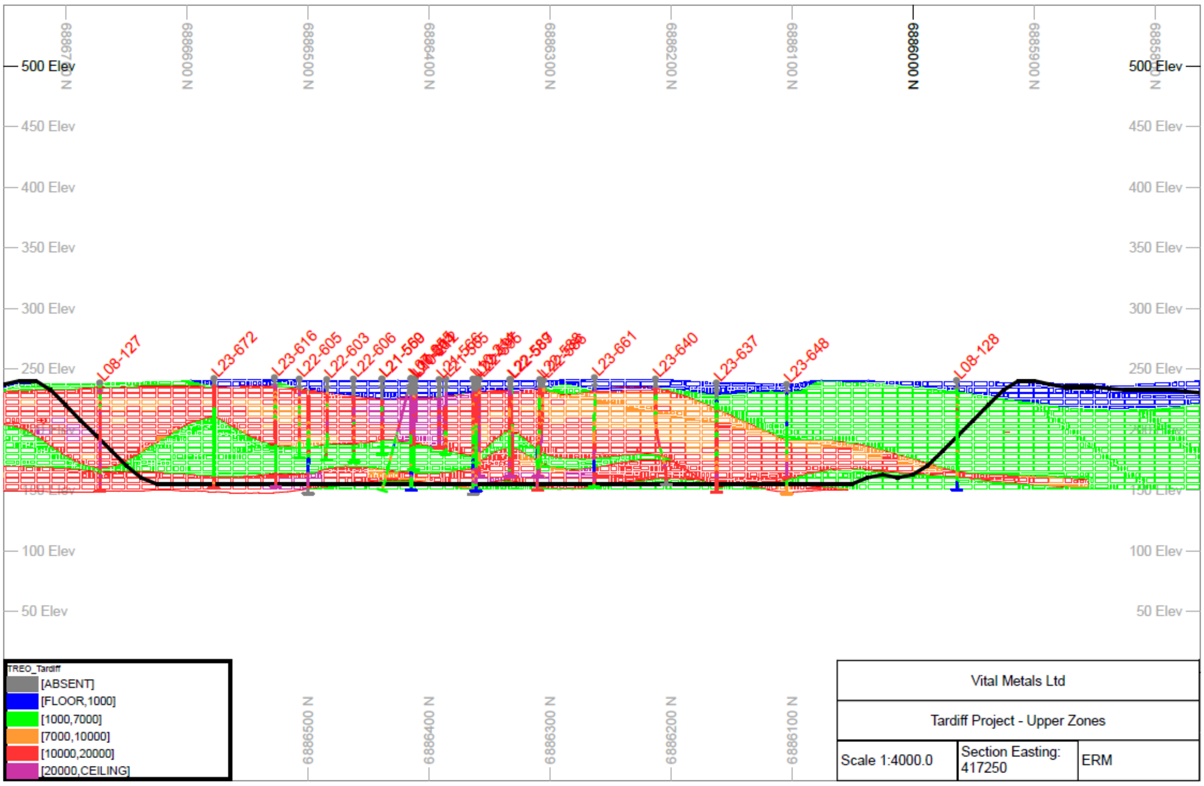

Figure 2: Cross section, Tardiff Mineral Resource, blocks and holes by TREO (PPM)

Mineral Resource Classification

The MRE has been classified in accordance with the JORC Code (2012). The Competent Person classified the Tardiff Mineral Resource as Measured, Indicated, and Inferred based on drill hole spacing, the quality assurance of the data, geological confidence in the continuity of grade, quality of the local block grade estimates, and quantity and quality of density measurement data.

Measured Mineral Resources are located within volumes supported by drill spacing of approximately 25 m by 25 m; Indicated resources supported by drill spacing of approximately 50 m by 50 m; and Inferred out to 200 m drill spacing. Polygons were digitised for the two main mineralisation domains using the above guidelines. The polygons were used as 'cookie cutters' to stamp the desired classification level into the block model, on a domain by domain basis. This provided the Competent Person complete control as to the assignment of classification into the block model.

Block model validation indicates that the final block classification is a reasonable representation of the input drill hole data and the geological features at the Project.

A representative cross section showing resource classification is presented in Figure 3, and a plan view of the classification is presented in Figure 1.

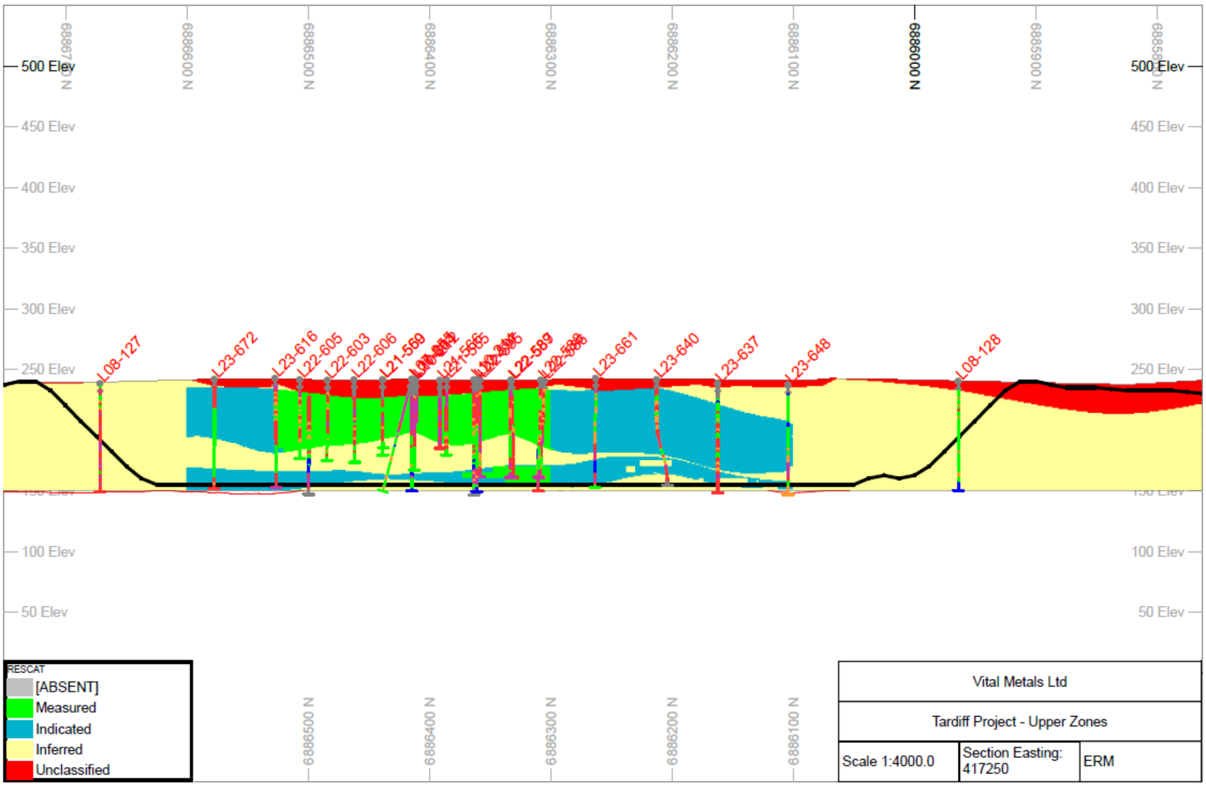

Figure 3: Cross section, Tardiff Mineral Resource, Resource Classification

Cut-Off Grades

The MRE is reported within an optimised open pit shell, as presented in Figure 1, with input cost and mining parameters based upon the CP's experience with working on technical studies for other hard rock open pit projects in Canada.

The MRE is reported above a cut-off grade of 0.7% TREO, which is a break-even cutoff grade calculated using appropriate REO market prices, and recoveries for the individual REOs.

Details supporting the cutoff grade calculation and pit optimization are provided in JORC Table 1, Section 3.

Mining and Metallurgical Methods

The CP has assumed that any mining of the Tardiff deposit will be by conventional open-pit mining methods. A Scoping Study is currently in progress to validate this assumption.

Metallurgical testwork is currently in progress to support the Scoping Study. Metallurgical recoveries determined from earlier technical studies for the project are considered to be reasonable, with average recoveries of 61% the TREOs. The recovery for niobium is currently low at 15%. Niobium is hosted in the mineral Fergusonite and Ferrocolumbite, which also host REE mineralisation, whereas the REE mineralisation is hosted predominantly in bastnasite and synchysite. It is a reasonable assumption, for the RPEEE test, that future metallurgical testwork will be targeted to allow for improved recoveries of Nb, and Vital are recommended to test this. These recoveries were used to support the open pit optimisation studies, used for reporting of this MRE.

The pit optimization studies used revenues determined using market pricing for the rare earth oxides, as well as the 2024 metallurgical results from Corem laboratories in Quebec, Canada for mining recovery, dilution, and refining and payability assumptions. A typical working season of 8 months/annum at the extreme cold latitude as well as cost data for mining, processing, camp and contingency was also included in the revenue estimation. The train transport costs were identified as important to project cost understanding and were derived from CN rail advertised pricing, and barge transport costs across Slave Lake.

Competent Person's Statements

The information in this report that relates to the current Mineral Resource estimate is based on, and fairly reflects, information compiled by Mr David Williams and Mr Paul Teniere. Mr. David Williams (B. Sc. Hons) is a full-time employee of ERM and is a Member of the Australian Institute of Geoscientists (RPGeo). Mr. Paul Teniere, M.Sc., P.Geo. is the Owner and President of Teniere Geoconsulting Services and a Member of the Association of Professional Engineers & Geoscientists of New Brunswick (APEGNB) and Professional Engineers and Geoscientists of Newfoundland & Labrador (PEGNL), both considered recognized overseas professional organizations (ROPO) under JORC. Mr David Williams and Mr Paul Teniere are fully independent of Vital Metals and have sufficient experience relevant to the style of mineralisation and type of deposit under consideration and to the activity which they are undertaking to qualify as Competent Persons as defined in the 2012 Edition of the Australasian Code for the Reporting of Exploration Results, Mineral Resources and Ore Reserves (JORC Code). Mr David Williams and Mr Paul Teniere consent to the disclosure of the information in this report in the form and context in which it appears. Mr Paul Teniere assumes responsibility for matters related to Sections 1 and 2 of JORC Table 1, while Mr David Williams assumes responsibility for matters related to Section 3 of JORC Table 1.

The information in this report that relates to Metallurgical Results is based on information compiled by Principal Technical Consultant, Richard Wagner, (Bachelor Applied Science, Mining Engineering, Mineral Processing), a Competent Person, who is a member of the Professional Engineers of Ontario, Canada (PEO) since 1982. Mr Wagner is a casual time employee of ERM. Mr Wagner has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which is undertaken, 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'. Mr Wagner consents to the inclusion in the presentation of the matters based on the information made available to him, in the form and context in which it appears.

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This announcement has been approved by the Board of Vital Metals Limited.

About Vital Metals

Vital Metals Limited (ASX: VML) is developing the large Nechalacho Rare Earth Project in Canada's Northwest Territories. Nechalacho has the potential to underpin a significant rare earths supply chain for North America with responsibly sourced critical minerals for the green economy transformation.

Forward Looking Statements

This release includes forward looking statements. Often, but not always, forward looking statements can generally be identified by the use of forward-looking words such as "may", "will", "expect", "intend", "plan", "estimate", "anticipate", "continue", and "guidance", or other similar words and may include, without limitation statements regarding plans, strategies and objectives of management, anticipated production or construction commencement dates and expected costs or production output.

Forward looking statements inherently involve known and unknown risks, uncertainties and other factors that may cause the company's actual results, performance and achievements to differ materially from any future results, performance or achievements. Relevant factors may include, but are not limited to, changes in commodity prices, foreign exchange fluctuations and general economic conditions, increased costs and demand for production inputs, the speculative nature of exploration and project development, including the risks of obtaining necessary licences and permits and diminishing quantities or grades of resources or reserves, political and social risks, changes to the regulatory framework within which the company operates or may in the future operate, environmental conditions including extreme weather conditions, recruitment and retention of personnel, industrial relations issues and litigation.

Forward looking statements are based on the company and its management's good faith assumptions relating to the financial, market, regulatory and other relevant environments that will exist and affect the company's business and operations in the future. The company does not give any assurance that the assumptions on which forward looking statements are based will prove to be correct, or that the company's business or operations will not be affected in any material manner by these or other factors not foreseen or foreseeable by the company or management or beyond the company's control.

Although the company attempts to identify factors that would cause actual actions, events or results to differ materially from those disclosed in forward looking statements, there may be other factors that could cause actual results, performance, achievements or events not to be anticipated, estimated or intended, and many events are beyond the reasonable control of the company. Accordingly, readers are cautioned not to place undue reliance on forward looking statements.

Forward looking statements in this release are given as at the date of issue only. Subject to any continuing obligations under applicable law or any relevant stock exchange listing rules, in providing this information the company does not undertake any obligation to publicly update or revise any of the forward-looking statements or to advise of any change in events, conditions or circumstances on which any such statement is based.

JORC Code, 2012 Edition – Table 1

Section 1 Sampling Techniques and Data

Criteria	JORC Code explanation	Commentary
Sampling techniques	• *Nature and quality of sampling (eg cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.* • *Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.* • *Aspects of the determination of mineralisation that are Material to the Public Report.* • *In cases where 'industry standard' work has been done this would be relatively simple (eg 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (eg submarine nodules) may warrant disclosure of detailed information.*	• Samples at the Tardiff Deposit Upper Zone (Tardiff or Tardiff deposit) are splits of diamond drill core over average lengths of one metre (PQ [85 mm] diameter core) or two metres (NQ [47.6 mm] and HQ [63.5 mm] diameter) or less in some cases. Of the NQ and HQ diameter core, a half or quarter mechanical split was sampled; the PQ diameter core was sampled entirely in the mineralized zones and a third of the core was sawn and sampled in unmineralized or weakly mineralized zones. The drill core was crushed and splits for geochemical analysis were prepared by independent laboratories. • Drill core is marked with a centre line for the sampler to ensure no sampling bias was introduced by choosing the location of the split and ensuring the samples are representative. • NQ and HQ drill core was crushed to 90% passing 10 mesh (2.0 mm). The PQ core was crushed to 6-mesh (approximately 3.3 mm) and approximately 2.0 kg was split off using a rotary splitter which was then crushed to 10-mesh. Splits of 250 g pulps were prepared from the 10-mesh crushed core. • Sampling of 2023 diamond drill core completed by Vital Metals are half splits of HQ-diameter drill core using a core splitter. A limited number of holes were cut with a core saw. • 2023 core samples were collected from the bastnaesite mineralisation with lengths ranging from 0.35 to 2.45 m. The typical sample length was 1.0 to 2.0 m. The sampling lengths were dictated by the lithology of the core. • All drill core samples were crushed to 90% <2 mm, then 1 kg was riffle split. The 1 kg splits from the samples were then pulverized to 85% <75 µm.
Drilling techniques	• *Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).*	• Diamond core drilling using PQ, NQ, and HQ diameter core tubes with wireline recovery was used for all the drilling at Tardiff. A limited number of oriented core holes were drilled by Avalon for geotechnical purposes. • HQ diameter diamond drilling was used for the 2023 drill program by Vital Metals. As the holes were short and vertical no orientations of the 2023 drill cores were undertaken.

Criteria	JORC Code explanation	Commentary
Drill sample recovery	• *Method of recording and assessing core and chip sample recoveries and results assessed.* • *Measures taken to maximise sample recovery and ensure representative nature of the samples.* • *Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.*	• Rock quality designation (RQD) logging was performed on all drill holes starting in 2009. • The weathering profile at Tardiff is limited and core recovery was generally excellent. RQD averaged 96.2% with a median of 98.7%. • The split lines were marked on the core to ensure systematic representative sampling. • There is no relationship between core recovery and grade, and preferential loss or gain of material during sample capture is not expected or thought to bias sample results at the Project. • Good core recovery was observed for the 2023 drill program. • The geological nature of the mineralisation in the Upper Zone (is secondary alteration products associated with predominantly carbonates (i.e. bastnaesite, synchisite etc.) and phosphates (i.e. monazite) and lesser amount of silicates (i.e. allanite, fergusonite).
Logging	• *Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.* • *Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.* • *The total length and percentage of the relevant intersections logged.*	• Logging was completed by qualified personnel by Avalon (historically) and Vital Metals for the 2021 to 2023 drilling programs. Detailed lithology logs include a description of alteration, texture, mineralogy, and mineralisation. • All drill core in the 2021 to 2023 drilling programs were photographed digitally and the database of these photos is maintained by Vital Metals. Select drill holes were re-photographed by Vital Metals using high resolution photography in summer 2024. • Logging information from a total of 25,393 sample intersections from 613 drill holes within the Tardiff area with a total length of 55,834 m were used for constructing the wireframes for the mineralized domains. Qualitative lithological logs for 100% of the intersections were available. • Total length of the core for the 74 holes of the 2023 drilling program is 6,664 m and the core was 100% logged. • In the CPs opinion, the logging is adequate to support Mineral Resource estimation.
Sub-sampling techniques	• *If core, whether cut or sawn and whether quarter, half or all core taken.* • *If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.*	• Of the NQ and HQ diameter core, a half or quarter mechanical split was sampled; the PQ diameter core was sampled entirely in the mineralized zones; and approximately 1/3 of the drill core was sawn and sampled in unmineralized or weakly mineralized zones.

Criteria	JORC Code explanation	Commentary
and sample preparation	• *For all sample types, the nature, quality and appropriateness of the sample preparation technique.* • *Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.* • *Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second-half sampling.* • *Whether sample sizes are appropriate to the grain size of the material being sampled.*	• Sampling procedures of mechanical or sawn splits of core follows industry standard practice and is considered by the CPs to be appropriate for hard rock deposits. • Drill core sample lengths ranged from 0.2 m to 5.9 m with 2 m as the most common sample length, and nearly 90% ranged from 1.0 m to 3.0 m. • The core samples were bagged and sealed at the Project site; crushing and pulverization were performed by the primary laboratory, ALS Canada. • Duplicate analyses of the rejects and the pulps were routinely performed for the Avalon drilling. • Avalon performed 87 field duplicate analyses of drill core, which indicated acceptable reproducibility. • Half core splits were sampled from the 2023 Vital Metals drilling program. The sampled core was crushed before assaying to ensure the material from the entire interval was analysed during the assaying process. • Duplicates of both the coarse-crushed (<2 mm) rejects and of the assay pulps were analysed and showed good reproducibility of the REE assays, indicating that both materials are sufficiently homogeneous. • The core sample intervals honour the interpreted contacts of the mineralisation zones, thus providing adequate sample coverage. • The sample lengths are considered appropriate for the rock type and mineralisation style by the CPs.
Quality of assay data and laboratory tests	• *The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.* • *For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.* • *Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.*	• The analyses of the REE are considered total analyses. The methods include lithium metaborate/tetraborate fusion (Actlabs), in some cases followed by dilute nitric digestion (ACME, ALS) of 0.1 g of pulp followed by multi-element ICP-MS analysis. Samples with high REE values were analyzed via XRF or further diluted using ICP-MS. These methods are considered appropriate for REE analysis. • For drill hole samples collected by previous owner Avalon Advanced Materials Inc. (Avalon), the Rare Earth Element (REE) concentrations were determined using inductively coupled plasma mass spectrometry (ICP-MS) and X-ray fluorescence (XRF) for the highest concentrations by several different geochemical laboratories. The laboratory packages used were 4B2-STD and 4B2- RESEARCH (ACME Laboratories Ltd. [ACME]), 4B (Activation Laboratories Ltd. [Actlabs]), and ME-MS81d, ME-MS81h, and

Criteria	JORC Code explanation	Commentary
		XRF10 (ALS Laboratories [ALS]). The majority of the samples completed by Vital Metals were analyzed by ALS. • All 2021, 2022, and 2023 Vital Metals core samples were submitted to ALS for sample preparation and assay analysis by lithium borate fusion with ICP-MS analysis (ME-MS81h). • Handheld XRF was only used as a guide for drill core logging. • The accuracy of the assaying has been validated through a combination of using certified reference standards with a known grade and inserting field blanks. • For the Avalon drilling, the pulp of every 10th sample was analyzed by a secondary laboratory. Every 40th sample was a blank and one of several in-house standards was inserted as every 15th sample. Assay batches that did not meet the quality control (QC) criteria were re-assayed. For the 2021 to 2023 drilling programs by Vital Metals, blanks and external REE standards supplied by Avalon were inserted at the same ratio as the previous drilling programs. Results of the QAQC program indicate acceptable levels of accuracy and precision of analytical results. However, the CP recommends using new certified reference materials (CRMs) for all future drilling programs. • A total of 8 independent witness (IW) quarter core check assay samples from 2021 and 2023 drill holes were submitted by the CPs and Vital Metals to Activation Laboratories (ActLabs) for sample preparation and assay analysis using lithium metaborate/tetraborate fusion with subsequent analysis by ICP and ICP/MS. Actlabs is independent of Vital Metals and ERM. These check assay samples were collected at the request of the CPs for data verification purposes and for comparing assay results between two independent laboratories (ALS versus ActLabs). • The presence of REE mineralisation (TREO) was confirmed in the 8 check assay samples, and the CPs confirm that the ActLabs check assay results were similar to the original ALS assay results from the same intervals. • Field blanks were inserted to monitor contamination and results were acceptable. • It is the opinion of CPs that sampling methods, sample preparation, security and analytical procedures implemented by Avalon and Vital Metals for the Tardiff Deposit are acceptable for the purposes of reporting a Mineral

Criteria	JORC Code explanation	Commentary
		Resource Estimate. • Several items were noted during the CPs QAQC drill hole database review and data verification exercise that necessitates changes to Vital Metals' core logging, sampling, and QAQC program in order to meet current industry best practices for Mineral Exploration. This includes the use of CRMs from accredited CRM providers; the use of a relational logging and assay database for core logging to ensure data integrity and quality controls; and consistent entry of hole information, geotechnical and core recovery data, and CRM laboratory results. The sampling and QAQC procedures adopted to support this Mineral Resource have not negatively influenced the classification of the Mineral Resource. Vital Metals has already taken steps to update their core logging, sampling, and QAQC procedures for all future drilling programs to ensure they meet current mining industry best practice guidelines.
Verification of sampling and assaying	• *The verification of significant intersections by either independent or alternative company personnel.* • *The use of twinned holes.* • *Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.* • *Discuss any adjustment to assay data.*	• No twinned holes were drilled. However, in multiple cases, zones of REE mineralisation were intersected from different drill hole collar locations. The 2023 drilling program by Vital Metals further infilled the existing Indicated Mineral Resource or helped increase the confidence in resource categories and determining grade continuity in the Tardiff deposit. • Rare Earth Oxide (REO) values were calculated from the ppm assay values from the REE assay results. The following conversion factors were used: ○ Ce CeO2 1.228 ○ Dy Dy2O3 1.148 ○ Er Er2O3 1.143 ○ Eu Eu2O3 1.158 ○ Gd Gd2O3 1.153 ○ Ho Ho2O3 1.146 ○ La La2O3 1.173 ○ Lu Lu2O3 1.137 ○ Nd Nd2O3 1.166 ○ Pr Pr6O11 1.207 ○ Sm Sm2O3 1.16 ○ Tb Tb4O7 1.175

Criteria	JORC Code explanation	Commentary
		○ Tm Tm_2O_3 1.142 ○ Y Y_2O_3 1.27 ○ Yb Yb_2O_3 1.139 • Drill hole data were maintained in a Maxwell Datashed database by Avalon and in a Microsoft Access Database by Vital Metals. ERM recompiled the Vital Metals assay data from the original laboratory certificates prior to merging with the Avalon portion of the database. • It is the opinion of the CPs that mining industry standard procedures were followed for data entry, data verification, and digital data storage.
Location of data points	• *Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.* • *Specification of the grid system used.* • *Quality and adequacy of topographic control.*	• All drill hole collar locations are initially surveyed using a handheld GPS and final collar coordinates were then confirmed by registered surveyors using high-precision DGPS surveying equipment. • All collar location data are in the UTM NAD83 Zone 12N coordinate system. • Down hole deviation surveys were completed on all drill holes used for Mineral Resource estimation. • A 0.5 m resolution satellite digital elevation survey was obtained by Avalon in 2010, which was previously used for mineral resource estimation purposes. A review of this DTM compared to the recent drill collars demonstrates some elevation differences between the DTM and selected drill hole collars, implying localised survey errors in the DTM. • Time limitations prevented Vital Metals acquiring a reliable topographic model to support this Mineral Resource estimate. Consequently, ERM constructed a topographic DTM using the drill hole collars. • The topographic DTM provides reliable coverage across the breadth of the deposit but at a localised scale, in areas in between drill holes, there will be minor differences between actual and modelled elevation. • A wireframe surface was constructed for the interpreted bathymetric surface of the lakes present at the project. Several small and shallow lakes are located on top of the Mineral Resource. The interpreted bathymetric model was used with the topographic DTM to appropriately deplete the resource block model. • The CPs regard the topographic DTM as used to support the Mineral resource as adequate quality.

Criteria	JORC Code explanation	Commentary
Data spacing and distribution	• *Data spacing for reporting of Exploration Results.* • *Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.* • *Whether sample compositing has been applied.*	• The drill hole collars are spaced 25 m, 50 m, or wider in the less explored areas. • In combination with geological and grade continuity in the deposit, in the CPs opinion, these spacings are considered adequate to support the Mineral Resource classifications applied. • Grade estimation is based on drill hole assays composited to two metre intervals within the intercepts of the mineralized zones. Residuals were distributed equally through the intercept.
Orientation of data in relation to geological structure	• *Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.* • *If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.*	• The zones of REE mineralisation are sub-horizontal magmatic layers which have not been structurally modified. Drill hole dip ranges from -45° to -90°, averaging -76°. All 2023 drill holes were drilled at -90° to intersect horizontally layered REO mineralisation at 90° to achieve unbiased sampling. • The mineralisation was intersected at appropriate angles for the deposit type. • The apparent mineralisation intersections may be longer than true thicknesses in cases where the drill hole is not vertical.
Sample security	• *The measures taken to ensure sample security.*	• All assay samples were sealed using zip lock bags and multiple samples were then placed in rice bags sealed with zip locks. The independent laboratory verified sealed sample integrity upon receipt. • Analyses for elements such as REE's, niobium, and zircon are unlikely to be altered as a result of insecurity of samples such as contamination. • Samples were collected and sent to an independent laboratory (ALS) using mining industry standard chain of custody procedures and the CP has verified these procedures and has no concerns.
Audits or reviews	• *The results of any audits or reviews of sampling techniques and data.*	• The sampling techniques and data for the Avalon and Vital Metals drilling programs have been independently reviewed by the CPs for data verification purposes. • The CPs have reviewed the sampling and QAQC protocols for the 2021-2023 drilling programs and noted no major issues. The CPs highly recommend as part of its revised QAQC and data verification program, Vital Metals complete routine audits of its primary certified and independent assay laboratory including sending a certain number of drill core samples to a

Criteria	JORC Code explanation	Commentary
		secondary certified and independent assay laboratory for comparative testing purposes and to check for any laboratory biases or significant errors. The CPs also reviewed and validated the drill hole database used in the current mineral resource estimate. Recommendations for updates to Vital Metals' core logging, sampling, and QAQC procedures to meet current mining industry best practices are noted in several sections above.

Section 2 Reporting of Exploration Results

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	• *Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.* • *The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.*	• The Nechalacho Project (the Project) is located in the Northwest Territories, Canada, approximately 100 km east-southeast of Yellowknife, centred on coordinates 416,400 m E / 6,887,000 m N or 112° 36' 6" W / 62° 6' 20" N. • The Tardiff deposit is located on Mineral Lease NT-3178. This Mineral Lease, as well as adjoining leases NT-3179, NT- 3265, NT-3266, NT-3267, NT-5534, NT-5535, and NT-5561 are described on the NWT's Mining Recorder's Office Mineral Tenure Web Map as being actively held by Avalon Advanced Materials Inc. (50%), and Nechalacho Resources Corp (50%), a subsidiary of Vital Metals, with expiration dates ranging from May 21, 2027 and October 24, 2039. • The CPs have confirmed the active status of the Project mining leases on the Mining Recorder's Office Mineral Tenure Web Map. • On June 24, 2019, Avalon announced that it had entered into a definitive agreement with Vital Metals to transfer ownership of the near-surface mineral resources on the Project (above 150 m RL), which includes the Tardiff deposit, and will retain a 3% net smelter royalty, which Avalon has agreed to waive for the first five years of commercial production or in perpetuity for a $2.0 M payment within eight years of the transaction (see Avalon's News Release NR 19-04 dated 24 June 2019). This agreement was later announced to be finalized (Avalon News Release dated 30 October 2019), and the information presented in this table is limited to above the 150 m elevation boundary. On February 6, 2020, the completion of a co-

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		ownership agreement was announced, under which Nechalacho Resources Pty Ltd. acquired ownership of the near-surface resources on the Project, including the Upper Zone, and a jointly-owned special purpose vehicle to hold and manage the permits and authorizations to operate at the site was created (see Avalon News Release NR 20-01). • A 2.5% Net Smelter Return (NSR) royalty to J. Daniel Murphy applies to the Thor Lake property which is capped at an escalating amount indexed to the rate of inflation. Nechalacho Resources has been granted the option to purchase Avalon's option in this third party-owned royalty for a payment of $1.5 million provided that, upon exercising the option, Nechalacho Resources extinguishes this royalty. SLR has reviewed the final Agreement of Sale between Vital Metals' subsidiary Nechalacho Resources and Avalon to confirm Vital Metals' ownership of the mineral rights above 150 m elevation, including the Tardiff Upper Zone. • On Nov 25-26th 2024 issue of claims three new mineral claims, M11875 to M11877, measure 11.50km2 (1,150ha), 7.61km2 (761ha) and 5.95km2 (595ha), and are 100% owned by Vital Metal's Canadian subsidiary, Nechalacho Resources Corp. These are verified on Mineral Tenure map for NWT • Although there are no known impediments, provincial and/or federal approvals and consultation with First nations and local communities are standard requirements for obtaining a license to operate in the area. • Vital Metals and ERM acknowledges Vital Metals personnel have discussed collaboration with First Nations, government and community stakeholders. • Vital Metals are in discussions with community stakeholders about the use of the current airstrip and camp as an outpost for remote travels as well as barge transportation services. • NWT regulations are being considered early in project design and permitting, such as special building foundations for sporadic permafrost as well as high insulation build for Northern climate. Additionally, extreme cold air temperatures require seasonal work/shutting down in the winter. The site is remote, which will require special logistics and safety considerations. • The project is in compliance with all NWT approvals and authorizations issued to date.

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Exploration done by other parties	• *Acknowledgment and appraisal of exploration by other parties.*	• Historical exploration drilling on the Project by Highwood Resources Ltd. was carried out in the 1980s. • Avalon carried out extensive exploration work including diamond drill programs on the Project from 2008 to 2019. • J.C. Pedersen, P.Geo. supervised the historical work and is an experienced geologist in the REE field and has worked with Avalon and Vital Metals. Mr. Pedersen supervised the 2021 and 2022 Vital Metals drilling programs and a portion of the 2023 drilling program.
Geology	• *Deposit type, geological setting and style of mineralisation.*	• The Tardiff deposit is hosted near the top of a layered nepheline syenite intrusion, which is part of an anorogenic alkaline intrusive complex, the Paleoproterozoic Blatchford Lake Igneous Complex. The REE mineralisation is hosted in hydrothermally altered eudialyte syenite collectively referred to as the Upper and Basal Zones and the REE are mainly contained in the minerals bastnäsite-(Ce), synchysite-(Ce), parasite-(Ce), fergusonite-(Y), samarskite-(Y), allanite-(Ce), and monazite-(Ce). Niobium mineralisation is hosted in dominantly ferrocolumbite and fergusonite-(Y). • The Upper Zone is a polymetallic (REE, Nb, Zr) deposit hosted by the Thor Lake Syenite. It is a large layered magmatic deposit with overprinting alteration. • REO mineralisation in the Lake Zone is layered in separate zones of light rare earths at the top of the deposit (Upper Zone) and a mixture of light and heavy REO mineralisation in the lower part of the deposit (Basal Zone).
Drill hole Information	• *A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes:* o *easting and northing of the drill hole collar* o *elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar* o *dip and azimuth of the hole* o *down hole length and interception depth* o *hole length.* • *If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from*	• No new Exploration Results or drill hole results are included in this ASX Press Release. Previous News Releases by Vital Metals have disclosed the summaries of the 2021 to 2023 drill holes and Exploration Results.

Criteria	JORC Code explanation	Commentary
	the understanding of the report, the Competent Person should clearly explain why this is the case.	
Data aggregation methods	• *In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg cutting of high grades) and cut-off grades are usually Material and should be stated.* • *Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.* • *The assumptions used for any reporting of metal equivalent values should be clearly stated.*	• This section is not relevant as this ASX Press Release is not disclosing new Exploration Results.
Relationship between mineralisation widths and intercept lengths	• *These relationships are particularly important in the reporting of Exploration Results.* • *If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.* • *If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (eg 'down hole length, true width not known').*	• All of the Vital Metals drill holes are vertical (-90°), and the interval lengths closely match the true width of the mineralized zones or lithogeochemical domains. • Many Avalon drill holes are steeply angled, and the interval lengths are slightly longer than true width.
Diagrams	• *Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.*	• A map and a cross section showing the drill hole collars and traces with the geological wireframe for the Tardiff deposit above the 150RL are included in this ASX Press Release.
Balanced reporting	• *Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.*	• This section is not relevant as Vital Metals is disclosing Mineral Resources in this ASX Press Release. All drill holes were used to guide the interpretation of the geological and mineralisation models and the mineralisation models locally reflect the tenor of mineralisation.
Other substantive exploration data	• *Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.*	• A sample from drill core of the Tardiff Upper Zone has been extracted and ongoing metallurgical test work by Corem in Quebec, Canada is being carried out to develop a flowsheet for extracting the REO. Initial global recovery results for preferred flowsheet were used in this report. • The rocks do not contain significant amounts of sulphide and, with the exception of low thorium oxide concentrations (112 ppm on average), as well as low uranium oxides U_30_8 (54 ppm on average). Thorium and Uranium Oxides (ThO_2 and U_30_8) concentration is expected to be negligible and well

Criteria	JORC Code explanation	Commentary
		under 3% or 70kBq/kg not requiring special packaging for transport.
Further work	• *The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).* • *Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.*	• Ongoing resource development (infill) and step-out drilling will continue over the next 12-24 months followed by an update to the mineral resource estimate, with a goal to continue to increase the reported tonnes in the Measured and Indicated mineral resource categories. • Continued collaboration with Local communities and First Nations during study and data collection activities. Stakeholder engagement and collaboration on mine services, supplies, barging, contracting First Nations personnel, site infrastructure access, engineering solutions and options, process chemicals and all other important subjects as project advances. • Concentrate strategies for the Tardiff project including discussions with potential buyers or third-party refiners of concentrate. • Evaluation of project and ongoing trade off studies 2025 such as relocation of small lakes, trade-off for mineral processing facilities, engineered solutions to reduce environmental impact, engineered backfill and waste products, material handling solutions, water retention pond using North T. • Hydrology into study of water flow rates through the overburden top layer, and trade-off potential engineering solutions. • Environmental and permitting as described in detail in Environmental factors or assumptions in this report is in progress. • Geotechnical drilling of 8 geotechnical holes and hydrology holes for better definition of potential pit slopes and water pumping requirements. The CPs recommend that these holes be twinned where possible to also be used as QAQC checks with geology exploration drill holes. • Power plant options based on weather station install which requires approximately 1 year of data. Start permitting and licensing process for small modular reactor SMR with CNSC Canada. • Investment into pre-construction survey work for vegetation and wildlife, combined with a plan to re-vegetate using site organic materials and tundra specific restoration techniques. • Cost estimation based on 2025 engineering design work. This work will develop into detailed estimate with third parties and or procurement to get quotations where possible. Each estimate categorized regarding confidence using percentage value.

Section 3 Estimation and Reporting of Mineral Resources

Criteria	JORC Code explanation	Commentary

Database integrity	• *Measures taken to ensure that data has not been corrupted by, for example, transcription or keying errors, between its initial collection and its use for Mineral Resource estimation purposes.*
	• *Data validation procedures used.*
		• The Nechalacho database maintained by Vital Metals consists of a historical portion, which was compiled by Avalon prior to 2019, and additional data acquired by Vital Metals during their 2021, 2022, and 2023 drilling programs.
		• In line with the definitive agreement with Avalon, dated June 24, 2019, regarding Vital's ownership of the near-surface mineral resources above the 150 m RL, the drill hole database only contains data where sample coordinates are ≥ 150 mRL. Some sample intervals are noted to extend marginally across and below this depth and these samples have been retained in the database.
		• A data package was provided to the CP by Vital Metals for the mineral resource estimate including:
		  ○ Original assay certificates and CSV files provided from a Microsoft (MS) Access database
		  ○ Drill hole core logging and sampling logs
		  ○ Drill hole collar location survey records.
		  ○ List of field QC samples (blanks, three different types of standards).
		  ○ Downhole surveys
		  ○ In addition, Vital Metals provided quality assurance/quality control (QA/QC) samples analyzed by Avalon prior to 2019 in an MS Excel file.
		  ○ Satellite photographs
		  ○ Topography survey (satellite data)
		  ○ Leapfrog Geo 3D geological models for the Tardiff deposit
		• The CPs completed a detailed QAQC check of the Vital Metals drill hole database as reported above.
		• Vital Metals provided the CPs with the drill hole database for drilling from 2021 to 2023 representing all drill hole information available as of November 20, 2024.
		• For the current Mineral Resource Estimate, the CP re-examined the portion

Criteria	JORC Code explanation	Commentary
		of the database compiled by Avalon prior to 2019 and completed a detailed check of the data provided by Vital Metals for the 2021 to 2023 drilling. • The CPs are of the opinion that the Avalon portion of the database is acceptable, and that Avalon followed industry standard best practices for data security, import/export procedures, and QAQC protocols. • The database is complete, and no information has been lost or modified during the handover between Avalon and Vital Metals and subsequent compilation work. • Differences in conversion factors for Ce and Pr in a subset of the data were identified and aligned prior to Mineral Resource estimation. • A subset of assay certificates was compared against REE values in the database and no structural issues, such as switched columns, were identified. • With respect to the Vital Metals dataset: o A subset of the economic REEs (Sm, Nd, Pr) was reviewed for the QC field standards collected from 2021 to 2023 drill holes, and the CP found the results to be within acceptable ranges. o The CP has compared the dataset against the original ALS certificates, and reviewed it for oxide conversion errors and consistency, transcription errors, survey and location discrepancies, and for irregular and impossible values, intervals, and interval lengths. Any discrepancies identified were amended. • Overall, the CP is satisfied that the databases used for Mineral Resource estimation are sufficiently robust and are representative of the originally collected data.
Site visits	• *Comment on any site visits undertaken by the Competent Person and the outcome of those visits.* • *If no site visits have been undertaken indicate why this is the case.*	• The drill hole database informing the current Mineral Resource estimate was reviewed and verified by CP David Williams. • Independent CP Paul Teniere (P.Geo.) and ERM Principal Mining Engineer James Gardner (P.Eng.) completed a one-day site visit to the Tardiff Project on September 11, 2024. • CP Paul Teniere reviewed some of the mineralised intervals from the 2022 and 2023 Vital Metals drilling programs with Natalie Pietrzak-Renaud, P. Geo., PhD, Vice President of Exploration for Vital Metals. CP Paul Teniere also reviewed select drill hole logs, and the core logging, sampling,

Criteria	JORC Code explanation	Commentary
		and photography facilities in the Tardiff field camp, and also completed a drill hole GPS collar check south of Thor Lake from the 2022 and 2023 Vital Metals drilling programs. The handheld GPS collar checks matched the original surveyed coordinates. After the site visit, CP Paul Teniere supervised the collection of 8 independent witness (IW) quarter core check samples from 2021 and 2023 Vital Metals drilling programs for laboratory testing, and to verify that REE mineralization exists and closely matches the original assay results from the same sampled intervals. • ERM Principal Mining Engineer, James Gardner was accompanied by Vital Metals mining consultant Eric Vinet (P.Eng.) on the site visit and using a helicopter travelled to different points taking georeferenced (northing, easting) based photos with notes about as-built structures, locations of proposed mining infrastructure as part of the scoping study. Major as-built areas include Thor Lake Camp which is a 40-person exploration camp, and North T site which is a previously mined pit and has a water retention pond, waste rock dumps, a Tomra ore sorter and conveyor and mining equipment. There were no observed discrepancies from the report on buildings or equipment listed in engineering notes. Major infrastructure proposed and discussed between Vital Metals and ERM include a barge conveyor loading site, a run of mine area, haulage roads, a secondary mine camp. The logistics of transport were discussed, a project barge loading location on the north shore of Great Slave Lake, connects the project by water to Hay River Marine Terminal and freight yard on the south Shore. From Hay River the CN railway connects to Canada and USA via multiple railways and by roads etc. to the greater North American refineries including United States, Canada, Greenland, Mexico and Central America.
Geological interpretation	• *Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.* • *Nature of the data used and of any assumptions made.* • *The effect, if any, of alternative interpretations on Mineral Resource estimation.* • *The use of geology in guiding and controlling Mineral Resource estimation.* • *The factors affecting continuity both of grade and geology.*	• The Tardiff deposit is hosted by the Nechalacho Nepheline Syenite and consists of a layered series of rocks with increasing peralkaline characteristics at depth. It is virtually undeformed, and the rock units and mineralisation are generally sub-horizontal and can be traced for hundreds of metres. • The REE mineralisation is hosted in mafic, hydrothermally altered eudialyte-aegirine-nepheline syenite. The Nechalacho deposit alteration system (biotite- magnetite-chlorite-quartz-zircon) varies between 80 m (L08-65) and 190 m (L08- 127) in vertical thickness, with the alteration typically starting at the surface. The alteration zone coincides with REE, Zr, Nb, and Ta mineralisation, with average values over the whole mineralized package of

Criteria	JORC Code explanation	Commentary
		approximately 0.75% to 1.0% Total Rare Earth Oxides (TREO). • There are some trends in chemical and mineralogical characteristics in the Nechalacho deposit that have both geological and metallurgical significance. These trends are most apparent in vertical zoning of the deposit with respect to the proportion of heavy rare earth elements (HREE) and light rare earth elements (LREE). In general, the HREE relative to the LREE show a distinct vertical zonation with increasing HREE to depth. This is not always consistent in individual drill holes. • Geological continuity and mineralisation are supported by close-spaced drilling and variography. The layered mineralisation is reasonably predictable and observable in the drill holes. • The nepheline syenite intrusion contacts are sharp and provide an outer limit to the mineralisation. • The continuity of the mineralisation is largely controlled by the deposition of eudialyte crystals in magmatic cumulate layers and by the interstitial crystallization of eudialyte in distinct horizons. The mineralized magmatic layers typically display sharp lower undulating boundaries and more gradual upper boundaries. • Localized hydrothermal REE-mobilization and redeposition in small, locally semi-massive bastnäsite veins and pervasive disseminated zones is less predictable. Constraining these zones within wireframes is not possible at the current drill spacing. • A nominal 7,000 ppm (0.7%) TREO value combined with lithological logging information was used for developing mineralogical wireframes in Leapfrog Geo software (mineralisation models 1, 2, 3, and 4). The cut-off grade was previously used to support the previous Mineral Resource (published 4th April 2024) and is supported by analysis of a log-probability plot of sample assays for TREO. Approximately 50% of the TREO assays have grades > 7,000 ppm TREO. • The mineralized domains (or resource domains) were modelled as sub-horizontal magmatic layers, and the footwall surface of the mineralized domains is controlled by collapsed fragments of the contact unit in several locations. • The Leapfrog model used to create the models supporting the previous Mineral Resource were updated using drill hole sample analyses from the

Criteria	JORC Code explanation	Commentary
		2023 drilling, thereby maintaining a consistent approach to the geological interpretation. • The following mineralized domains were modelled for the deposit: o The Nechalacho Syenite, as a low-grade volume surrounding the higher-grade domains. This has been subdivided into zones above the Upper Zone (1), between Zones 1 and 2, and below Zone 2. The zones capture all REO mineralisation not captured within the 7,000 ppm TREO envelopes. o Four separate mineralized domains within the Nechalacho Syenite (Upper Zones 1, 2, 3, and 4), interpreted above a 7,000 ppm TREO grade. • Unmineralized country rock lithology, as well as overburden, diabase, and unmineralized syenite were constrained by wireframes.
Dimensions	• *The extent and variability of the Mineral Resource expressed as length (along strike or otherwise), plan width, and depth below surface to the upper and lower limits of the Mineral Resource.*	• In plan, the Tardiff Mineral Resource extends approximately 1,900 m in the east-west direction and up to 800 m in the north – south direction. Vertically, the Mineral Resource lower limit is at the 150RL, below which Avalon has maintained ownership. The upper limit of the Mineral Resource is the contact between the Nechalacho Syenite and a layer of Glacial Till that may be up to 10 m in thickness.
Estimation and modelling techniques	• *The nature and appropriateness of the estimation technique(s) applied and key assumptions, including treatment of extreme grade values, domaining, interpolation parameters and maximum distance of extrapolation from data points. If a computer assisted estimation method was chosen include a description of computer software and parameters used.* • *The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.* • *The assumptions made regarding recovery of by-products.* • *Estimation of deleterious elements or other non-grade variables of economic significance (eg sulphur for acid mine drainage characterisation).* • *In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.*	• Historical diamond drill holes, drilled before 2007, were excluded from the Mineral Resource estimate. The geological logs from the core were considered to be sufficiently reliable to be used to guide the geological interpretations of the domains, however the QAQC of the sample assays were considered by the CP to be of insufficient quality to allow these sample assays to be used in the Mineral Resource estimate. The same approach was adopted for the previous MRE, reported in April 2024. • The block model was constructed in Datamine software as a sub blocked model without rotation. • The block model uses a block size of 12.5 m x 12.5 m x 5 m with a minimum sub-block size of 1.25 m x 1.25 m x 1 m in the X, Y, and Z directions. This is a coarser parent cell size than used in the previous Mineral Resource estimate. • The block model contained various types of information including: • Mineralized domain identifier (MINZON)

Criteria	JORC Code explanation	Commentary

	• *Any assumptions behind modelling of selective mining units.*
	• *Any assumptions about correlation between variables.*
	• *Description of how the geological interpretation was used to control the resource estimates.*
	• *Discussion of basis for using or not using grade cutting or capping.*
	• *The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.*
		• Lithology domain (LITHZON)
		• Estimated grades of REOs and Nb_2O_5.
		• Calculated TREO grade, derived from summed values for LREO and HREO.
		• LREO=LA2O3+CEO2+PR6O11+ND2O3+SM2O3
		• HREO=EU2O3+GD2O3+TB4O7+DY2O3+HO2O3+ER2O3+TM2O3+YB2O3 +LU2O3+Y2O3
		• A metal equivalents value, named herein as a Net Metal Revenue (NMR), was calculated for each block in the model based upon the recoveries and basket prices for the following. The NMR was used to calculate a breakeven cutoff grade for reporting TREO, as discussed in the cut-off parameters criteria.
		  • <u>LREO (Light Rare Earths Oxides)</u>
		    o CeO2 (Cerium), La203 (Lanthanum), Pr6011 (Praseodymium), Nd203 (Neodymium), Sm203 (Samarium) .
		  • <u>HREO (Heavy Rare Earth Oxides)</u>
		    o Y203 (Yttrium), Eu203 (Europium), Gd203 (Gadolinium), Tb407 (Terbium), Dy203 (Dysprosium), Ho203 (Holmium), Er203 (Erbium), Tm203 (Thulium), Yb203 (Ytterbium), Lu203 (Lutetium).
		• NMR Net metal return which is calculated using the formula:
		  • NMR ($USD/tonne) = (Payability [%] x Product Price [$/unit] x recovery and dilution
		• Bulk density; interpolated into the block model by mineralisation and lithological domain using Inverse Distance squared. Where the quantity of density data was insufficient to allow for interpolation, the mean density grade of the domain was assigned to all blocks within the domain. No density samples were taken within the overburden and a default value (1.7t/m3) was assigned. A sample search ellipse of 30 m (E) by 30 m (N) by 5 m (Z) was used, with the ellipse orientation adjusted to reflect the local dip and dip direction of the mineralisation domain wireframe, with a minimum of 6 and maximum of 10 SG samples used per block estimate.
		• Resource classification (RESCAT), as per guidelines of the JORC Code (2012). Discussed in Classification criteria of this Section.

Criteria	JORC Code explanation	Commentary
		• REO assays in each resource domain were investigated for outlier grade values. Extreme values were capped to limit their influence. • The assays were composited into two metre intervals for the resource estimation. All drill holes were fully sampled over the mineralized interval. • Variograms were modelled for each light rare earth oxide (LREO) using the composites for the two main mineralisation domains. Variograms were also modelled for the calculated LREO value (sum of individual LREOs) with the intent to interpolate the LREO value to be used as a check estimate value to compare with the summed individual LREO grades. Variograms were modelled in the plane of vein 30° to 190°, with a modelled plunge of –19° to 136°. This plunge reflects the local dip of the syenite host. Low relative nugget effects were modelled, with short ranges of <20 m but accommodating approximately 75% of the population variance. Long ranges extended to ~100 m. • Variograms for LREO in MINZON 2 were also modelled with similar nugget, ranges and variances. • Variograms were modelled for the two significant heavy rare earth oxides for Tb and Dy, and the summed HREO, and the variogram sills and ranges from the HREO model used to interpolate the remaining HREO grades. Short ranges were >40 m and longer ranges than LREO variogram models, due to different minerals hosting LREO and HREO. • Ordinary kriging (OK) was used to interpolate all REO and Nb_2O_5 grades using three estimation passes and variable sample ellipse orientation using Datamine's Dynamic Anisotropy function. • For MINZON 1 and 2, for both LREO and HREO, a sample search ellipse with radii 100 m x 100 m x 10 m was used, with minimum 8 samples and maximum 22 samples per block estimate. A maximum of 4 samples per hole per block estimate was used. Top cut and composited sample assays were interpolated. Search ellipse radii for the second estimation pass were doubled then multiplied by 5 for the third pass. • LREO and HREO and Nb_2O_5 grades were interpolated into the blocks located between the mineralisation domains. These domains are also hosted in syenite but not constrained by a mineralisation envelope. All samples

Criteria	JORC Code explanation	Commentary
		located above the MINZON 2 domain (excluding MINZON 1 samples) were combined into one estimation group, supported by statistical analysis of the grade populations. • Other oxides interpolated include U3O8, ThO2, Fe2O3, ZrO2 and Ta2O5. • Diabase dykes and overburden, and the water domains, were assigned grades of 0 ppm for all oxides. • The interpolations were validated globally against the composites by domain. The mean values of the Nd_2O_3 and Pr_6O_{11} grades interpolated using OK are within 1% of those of the composites and within 3% of the HREO grades Tb and Dy. The interpolated grades were also validated using swath plots and good agreement was found between the composites and the grades interpolated using OK, with moderate grade smearing observed in the Inferred category due to the wider sample spacing.
Moisture	• *Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.*	• Tonnage was estimated on a dry basis. • The moisture content was not measured but is expected to be insignificant. The rock is competent with little porosity.
Cut-off parameters	• *The basis of the adopted cut-off grade(s) or quality parameters applied.*	• The depth and geometry of the Tardiff deposit make it amenable to surface open pit methods. The operating costs were calculated at high level. The sales price of the product was selected from market and client knowledge. • The Mineral Resource is reported above a TREO cutoff grade of ≥0.7%. TREO is calculated as the sum of all the rare earth oxides, independently interpolated into the resource model. The cutoff grade is regarded as approximating the breakeven cutoff grade for TREO, as per the following discussion points. • A Net Metal Revenue (NMR) value was used to calculate the breakeven cutoff grade, used for reporting of TREO, as discussed further in this criteria. • The total cost (onsite and offsite) was calculated as $70 CAD or using an exchange rate of 1.3:1 United States Dollars, results in approx. $54 USD/tonne milled. • The calculation of NMR is the estimated value per tonne of mineralized material after allowance for metallurgical recovery and consideration of terms for separation and refining, including payability and charges. Additionally, it includes mining dilution and recovery which is represented in

Criteria	JORC Code explanation	Commentary
		the equation:

- NMR ($USD/tonne) = (Payability [%] x Product Price [$/unit] x recovery& dilution [%]

  - LREO (Light Rare Earths Oxides)
  - CeO2 (Cesium), La203(Lanthanum), Pr6011(Praseodymium), Nd203(Neodymium), and Sm203 (Samarium).

  - HREO (Heavy Rare Earth Oxides)
  - Y203 (Yttrium), Eu203 (Europium), Gd203 (Gadolinium), Tb407 (Terbium), Dy203 (Dysprosium), Ho203(Holmium), Er203 (Erbium), Tm203 (Thulium), Yb203 (Ytterbium), Lu203 (Lutetium)

  - Non RPEE oxides
  - There are other oxides not considered as having reasonable prospects for eventual economic extraction (RPEEE), based upon the expenses to crack (release) them from the host minerals, being ZrO_2 (Zirconium Dioxide), andTa_20_5 (Tantalum Pentoxide), and Nb2O5 (Niobium Pentoxide)

  - Deleterious
  - Potentially deleterious elements due to their radioactivity which have not had economic value applied, Uranium and Thorium oxides (U308 & ThO2)

- The most significant oxides in regard to their NMR value are
  - LREO oxides Nd203(Neodymium), Pr6011(Praseodymium)
  - HREO oxides Tb407 (Terbium), Dy203 (Dysprosium)

  - Market Prices used to determine product price

Light / Heavy Rare Earth Oxides	Chemical Formula	Market Price

Criteria	JORC Code explanation	Commentary

LREO's		**($USD/kg)**
Cesium	CeO2	$ 6.23
Lanthanum	La2O3	$ 8.75
Praseodymium	Pr6O11	$ 60
Neodymium	Nd2O3	$ 60
Samarium	Sm2O3	$ 6.75
HREO's		**($USD/kg)**
Yttrium	Y2O3	$ 15
Europium	Eu2O3	$ 35
Gadolinium	Gd2O3	$ 100
Terbium	Tb4O7	$ 770
Dysprosium	Dy2O3	$ 220
Holmium	Ho2O3	$ 100
Erbium	Er2O3	$ 60
Thulium	Tm2O3	$ -
Ytterbium	Yb2O3	$ -
Lutetium	Lu2O3	$ 500
Niobium Pentoxide	Nb205	$ 34.62

- * Product Price [$/unit] is defined above as the market price less the refining costs of 25% of market price and includes charges for deleterious elements, assuming a refiner buys product
-
- The following are common for all oxides; Payability [%] of 95%
- The % TREO at breakeven ($USD/tonne) ~

Criteria	JORC Code explanation	Commentary
		○ $54 USD/tonne cost. ○ 1% TREO ~ $78 USD/tonne ○ The selected cut-off grade is "Cut -off- Grade" CoG ≥0.7% TREO • For the purposes of demonstrating Reasonable Prospects of Eventual Economic Extraction (RPEEE) an optimized pit shell was generated using Whittle software and a slope angle of 45°. • Vital Metals anticipates purchasing the royalty rights for lump sum payments; royalties are thus not considered in the cut-off grade calculation.
Mining factors or assumptions	• *Assumptions made regarding possible mining methods, minimum mining dimensions and internal (or, if applicable, external) mining dilution. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential mining methods, but the assumptions made regarding mining methods and parameters when estimating Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the mining assumptions made.*	• The CPs and Vital Metals have assumed that the Tardiff deposit will be amenable to open-pit mining methods. • Northwest Territories and Nunavut regulations specify seasonal work approx. 8 months per year; with barge operating season of 3 months annually • For determining reasonable prospects for eventual economic extraction (RPEEE), the CP conducted pit optimization on the deposit using key assumptions and the following input parameters were used for the pit optimization: • Input Parameters – Pit Optimization •

Operational Parameters			
Parameter	Value	Unit	Source
Operating Costs			
Mining Cost	3.46	US$/t	Agreed with Client
Processing Cost	23.08	US$/t ore	Agreed with Client
Camps and Site Works	9.23	US$/t oe	Agreed with Client
G&A Costs	5.38	US$/t ore	Agreed with Client

Criteria	JORC Code explanation	Commentary

Offsite Costs			
Concentrate transportation Cost	38.46	US$/t concentrate	Agreed with Client
Refining Cost	25	% of Sale value	Agreed with Client
Smelter payable	95	%	Agreed with Client
Geotechnical Parameters			
Overall Angle	45	degrees	Standard
Pit Optimization Parameters			
Dilution	10	%	Prev. Projects
Mining Recovery	90	%	Prev. Projects
Annual Discounting	5	%	Prev. Projects
Swell Factor	1.3		Prev. Projects
Yield concentration factor	18	%	Avalon FS
Days of operation	210	days	
Contingency Cost	20	%	

- The lower limit of the pit shell is 150 RL, above which Vital Metals has ownership.
- The Mineral Resource is reported within an optimised pit shell ‘Optimized_Pits_2_Pit_85_100tr/pt’ where TREO ≥ 0.7%.
- Nb_2O_5 is reported in the resource table but it is noted that the recovery is currently very low (15%). Nb is hosted in Fergusonite and ferrocolumbite, which also hosts some REE. It is a reasonable assumption, for the RPEEE

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		test, that future metallurgical testwork will allow for improved recoveries of Nb, and Vital are recommended to test this. • The reported Mineral Resource extends below shallow lakes to the north and south named Thor Lake and Long Lake. The North and South Tardiff small lakes reported with RPEEE Mineral Resource are also very shallow of less than 2 metre bathometric depth and do not host fish. It is expected that Vital Metals will remove these lakes on the property and obtain a permit with NWT Department of Fisheries, if required. • Discussions were held between Vital Metals and the CPs regarding the RPEEE test, regarding the possibility to remove the lakes, and if environmental permitting is possible, or if it is not amenable due to Indigenous community stakeholders and the NWT government. The resulting dialogue with Vital Metals is as follows: ○ Indigenous stakeholders are willing to discuss and develop solutions to development of the resource under the Thor and Long lakes. A primary focus is that "Nechalacho's" or "Safe Harbour" in local language should be a site for a safe harbour for winter travel on the Great Slave Lake. Resource development concerns have largely centred around long term water contamination which Vital intends to work on with rigor, a desire to have renewal of mine projects in NWT and a desire to provide local services to project or work collaboratively/joint venture. ○ Environmental permitting is considered to be a long-term task which also requires budget and technical study but is considered eventually possible to achieve. Vital has not yet attained the next stage of permitting beyond 2025. The application and related engagement process is underway and Vital are waiting on feedback. ○ It's possible the operational plans will support a pumping capital project, if it has community approval and is permitted. However, no such operating plan has yet been decided or technical study commenced or engineered. •

<table>
<tr><th>Criteria</th><th>JORC Code explanation</th><th>Commentary</th></tr>
<tr><td>Metallurgical factors or assumptions</td><td>The basis for assumptions or predictions regarding metallurgical amenability. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential metallurgical methods, but the assumptions regarding metallurgical treatment processes and parameters made when reporting Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the metallurgical assumptions made.</td><td>The NMR value parameters were based on metallurgical results performed in the fourth quarter of 2024 by Corem laboratory in Quebec City, Province of Quebec, Canada. The metallurgical batch tests managed with communications and two site visits by ERM, showed the following recoveries for upper Tardiff, which is weighted average of recovery of 61.9% TREO. The metallurgical lab sample tested represented the first five years of Tardiff ore. The LREO’s and HREO’s batch test lab global recoveries are shown.
<table>
<tr><th>Light / Heavy Rare Earth Oxides</th><th>Chemical Formula</th><th>Global Recovery</th></tr>
<tr><td></td><td></td><td></td></tr>
<tr><td>LREO's</td><td></td><td>(%)</td></tr>
<tr><td>Cesium</td><td>CeO_2</td><td>67.9%</td></tr>
<tr><td>Lanthanum</td><td>La_2O_3</td><td>67.4%</td></tr>
<tr><td>Praesodymium</td><td>Pr_6O_{11}</td><td>65.3%</td></tr>
<tr><td>Neodymium</td><td>Nd_2O_3</td><td>62.7%</td></tr>
<tr><td>Samarium</td><td>Sm_2O_3</td><td>49.6%</td></tr>
<tr><td>Niobium</td><td>Nb205</td><td>15.4%</td></tr>
<tr><td></td><td></td><td></td></tr>
<tr><td>HREO's</td><td></td><td>(%)</td></tr>
<tr><td>Yittrium</td><td>Y_2O_3</td><td>21.3%</td></tr>
<tr><td>Europium</td><td>Eu_2O_3</td><td>43.0%</td></tr>
<tr><td>Gadolinium</td><td>Gd_2O_3</td><td>41.9%</td></tr>
<tr><td>Terbium</td><td>Tb_4O_7</td><td>30.9%</td></tr>
<tr><td>Dysprosium</td><td>Dy_2O_3</td><td>23.4%</td></tr>
<tr><td>Holmium</td><td>Ho_2O_3</td><td>19.9%</td></tr>
<tr><td>Erbium</td><td>Er_2O_3</td><td>19.8%</td></tr>
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<table>
<tr><th>Criteria</th><th>JORC Code explanation</th><th>Commentary</th></tr>
<tr><td></td><td></td><td><table><tr><td>Thulium</td><td>Tm2O3</td><td>17.0%</td></tr><tr><td>Ytterbium</td><td>Yb2O3</td><td>16.2%</td></tr><tr><td>Lutetium</td><td>Lu2O3</td><td>15.6%</td></tr></table></td></tr>
<tr><td>Environmen-tal factors or assumptions</td><td>Assumptions made regarding possible waste and process residue disposal options. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider the potential environmental impacts of the mining and processing operation. While at this stage the determination of potential environmental impacts, particularly for a greenfields project, may not always be well advanced, the status of early consideration of these potential environmental impacts should be reported. Where these aspects have not been considered this should be reported with an explanation of the environmental assumptions made.</td><td>Conventional waste dumps would be designed as part of the future mine design but would require permitting. These waste rock piles would be low in sulphides, however, requires consideration of other potential contaminants of concern. Full geochemical characterization will inform environmental effects assessment for permitting. Preliminary information indicates low potential for adverse environmental risk.
Local and Indigenous communities are actively engaged by Vital Metals and will continue to be engaged regarding engineered solutions, options and potential environmental impacts, social and economic benefits.
Vital Metals is proactive in their approach to the environment, social, and governance (ESG). They are actively preparing to engage in the following activities 2025:
Baseline Studies building on the 2008/2009 baseline study, towards environmental effects assessment.
Updated surface and groundwater quality monitoring.
Current site met station data to support water management plan.
Fisheries and aquatics work to support any lake/pond dewatering and potentially additional study if fish-offset plan(s) are required by Department of Fisheries and Oceans DFO; to include under-ice overwintering assessments, and filling gaps in studies of benthic invertebrate species.
Additional hydrology data to support water management or construction interactions with water bodies/watercourses.
Archaeological field testing of new areas of proposed disturbance.
Keystone species studies.
Completion of soil/vegetation surveys in areas to be disturbed to inform soil salvage and handling and post-closure reclamation objectives and</td></tr>
</table>

Criteria	JORC Code explanation	Commentary
		prescriptions. o Geochemistry; complete/update source term definition and any static/kinetic tests for ML/ARD characterization. o Process effluent fish/invertebrate toxicity testing. o Site characterization and mining site engineered options. o Updated regional socio-economic profiling.
Bulk density	• *Whether assumed or determined. If assumed, the basis for the assumptions. If determined, the method used, whether wet or dry, the frequency of the measurements, the nature, size and representativeness of the samples.* • *The bulk density for bulk material must have been measured by methods that adequately account for void spaces (vugs, porosity, etc), moisture and differences between rock and alteration zones within the deposit.* • *Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.*	• Density was measured every five metres on a 10 cm size core segment using the Archimedes method (water displacement). • Given the low porosity of the mineralized host rock and barren country rock, the CPs consider this method adequate to support Mineral Resource estimation. • Density values have been estimated into the block model using inverse distance weighting (IDW) to power of 2, using a single pass. Blocks not estimated were assigned the domain mean density value. Average block density values for interpolated domains are as follows: o Thor Lake Syenite: 2.70 t/m^3 o Nechalacho Layer Syenite Undifferentiated: 2.61 t/m^3 o Upper Zone 1: 2.75 t/m^3 o Upper Zone 2: 2.77 t/m^3 o Upper Zone 3: 2.7 t/m^3 o Upper Zone 4: 2.7 t/m^3 o MINZON 101: 2.67 t/m^3 o MINZON 102: 2.73 t/m^3 o MINZON 103: 2.72 t/m^3 o Diabase dykes: 2.91 t/m^3 o Overburden: 1.7 t/m^3
Classification	• *The basis for the classification of the Mineral Resources into varying confidence categories.* • *Whether appropriate account has been taken of all relevant factors (ie relative confidence in tonnage/grade estimations, reliability of input data, confidence in continuity of geology and metal values,*	• The Mineral Resource estimate has been classified in accordance with the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (JORC Code, 2012 Edition). • The Competent Person classified the Tardiff Mineral Resource as Measured, Indicated, and Inferred based on drill hole spacing, the quality assurance of

Criteria	JORC Code explanation	Commentary
	quality, quantity and distribution of the data). • *Whether the result appropriately reflects the Competent Person's view of the deposit.*	the data, geological confidence in the continuity of grade, quality of the local block grade estimates, and quantity and quality of density measurement data. • The following nominal drill hole spacing guidelines were used for classification: ○ Measured: approximately 25 m spacing. ○ Indicated: approximately 50 m spacing. ○ Inferred: approximately 200 m spacing. • Polygons were digitised for the two main mineralisation domains using the above guidelines. The polygons were used as 'cookie cutters' to stamp the desired classification level into the block model, on a domain by domain basis. This provided the Competent Person complete control as to the assignment of classification into the block model. • All blocks outside of the mineralisation domains (coded as MINZON>100) are classified as Inferred regardless of drill spacing, due to lower levels of geological control applied to the domains. • Diabase dykes and overburden are set as unclassified. • Block model validation indicates that the final block classification and estimated block grades are a reasonable representation of the input drill hole data and the geological features at the Project. • The classification reflects the Competent Persons' view of the deposit.
Audits or reviews	• *The results of any audits or reviews of Mineral Resource estimates.*	• In addition to the data validation undertaken by the CPs throughout the geological modelling process, the final Mineral Resource estimate and block model has been subject to an internal Peer Review process adopted by ERM to ensure a robust estimate. The model was presented to Vital Metals and other ERM employees as part of the review process. • No external audits of the Mineral Resource have been conducted to date.
Discussion of relative accuracy/ confidence	• *Where appropriate a statement of the relative accuracy and confidence level in the Mineral Resource estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the resource within stated confidence limits, or, if such an approach is not deemed*	• The Mineral Resource estimate has followed industry standard practices for collecting, validating, and estimating data. • The accuracy and precision of the assay results used in the Mineral Resource have been evaluated through the implementation of QAQC programs, and it can be concluded that the overall accuracy and reliability of the data are suitable for Mineral Resource estimation.

Criteria	JORC Code explanation	Commentary
	appropriate, a qualitative discussion of the factors that could affect the relative accuracy and confidence of the estimate. • *The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used.* • *These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.*	• The application of thorough exploratory data analysis (EDA), variography, and robust block model validation gives a high confidence in the Measured and Indicated material in the model. The Measured and Indicated Resources may be used for future technical and economic evaluation, for example, for the estimation of Ore Reserves. • The Inferred material by nature has a relatively low level of accuracy, but a high level of geological confidence to exist. • No production data exists for the deposit.