#### VANADIUMCORP RESOURCE INC.

# **Management's Discussion and Analysis**

# for the Three Months Ended January 31, 2021

The Management's Discussion and Analysis ("MD&A), prepared as of September 30, 2021, review and summarize the activities of VanadiumCorp Resource Inc. ("VanadiumCorp" or the "Company") and compare the financial results for the three months ended January 31, 2021, with those of the three months ended January 31, 2020. This information is intended to supplement the unaudited condensed interim consolidated financial statements for the three months ended January 31, 2021 and the related notes thereto, which have been prepared by management in accordance with International Financial Reporting Standards ("IFRS") as issued by the International Accounting Standards Board. All dollar amounts included in this MD&A are stated in Canadian dollars unless otherwise indicated.

# FORWARD LOOKING INFORMATION

This Management Discussion and Analysis ("MD&A") contains certain forward-looking statements and information relating to VanadiumCorp Resource Corp. ("the Company") and its operations that are based on the beliefs of its management as well as assumptions made by and information currently available to the Company. When used in this document, the words "anticipate," "believe," "budget," "estimate," "expect," "intends," "plans," "potential," and similar expressions, as they relate to the Company or its management and operations, are intended to identify forward-looking statements.

These forward-looking statements or information relate to, among other things: the Company's future financial and operational performance; the sufficiency of the Company's current working capital, anticipated cash flow or its ability to raise necessary funds; the anticipated amount and timing of work programs; our expectations with respect to future exchange rates; the estimated cost of and availability of funding necessary for sustaining capital; forecast capital and non-operating spending; and the Company's plans and expectations for its property, exploration and community relations operations.

These forward-looking statements and information reflect the Company's current beliefs as well as assumptions made by, and information currently available to the Company and are necessarily based upon a number of assumptions that, while considered reasonable by the Company, are inherently subject to significant operational, business, economic, competitive, political, regulatory, and social uncertainties and contingencies. These assumptions include: cost estimates for exploration programs; cost of drilling programs; prices for base and precious metals remaining as estimated; currency exchange rates remaining as estimated; capital estimates; our expectation that work towards the establishment of mineral resource estimates and the assumptions upon which they are based will produce such estimates; prices for energy inputs, labour, materials, supplies and services (including transportation); no labour-related disruptions at our operations; no unplanned delays or interruptions in scheduled work; all necessary permits, licenses and regulatory approvals for our operations being received in a timely manner and can be maintained; and our ability to comply with environmental, health and safety laws, particularly given the potential for modifications and expansion of such laws. The foregoing list of assumptions is not exhaustive.

Forward-looking statements and information involve known and unknown risk, uncertainties, assumptions, and other factors which may cause the actual results, performance, or achievements of the Company to be materially different from any future results, performance or achievements expressed or implied by the forward-looking statements. Although the Company has attempted to identify important factors that could cause actual results or events to differ materially from those expressed or implied in the forward-looking statements (see "Risks and Uncertainties" in this MD&A), there may be other factors, such as the coronavirus global pandemic, which could cause results not to be as anticipated, estimated, described, or intended. Investors are cautioned against attributing undue certainty or reliance on forward-looking statements or information.

Forward-looking statements and information contained herein are made as of the date of this MD&A and the Company does not intend and disclaims any obligation to update or revise forward-looking statements or information, whether as a result of new information, future events, or to reflect changes in assumptions or in circumstances or any other events affecting such statements or information, other than as required by applicable law.

#### **QUALIFIED PERSON**

Mr. Paul McGuigan, P. Geo., of Cambria Geosciences Inc., a Qualified Person under NI 43-101 and a senior consulting geoscientist and Director of the Company, has reviewed and approved the technical disclosure in this management discussion and analysis.

### THE COMPANY

VanadiumCorp Resource Inc. (the "Company") was incorporated under the Corporations Act (British Columbia) as Homestead Resources Inc. on October 23, 1980. The Company and its subsidiaries are engaged in the acquisition, exploration, and development of mineral properties in Canada with a primary focus on the exploration of the Lac Dore and Iron-T Properties in Quebec that are mostly prospective for vanadium, titanium, and iron.

Additionally, the Company is also engaged in research in novel hydrometallurgical processes for recovering for vanadium, iron, and titanium products from various feedstocks (principally titanomagnetite) and industrial waste streams.

The Company's registered office is Suite 400 – 1505 West 2nd Avenue, Vancouver, British Columbia, V6H 3Y4. The Company is a publicly-traded junior resource company. It is classified as a Tier 1 company on the TSX Venture Exchange where its trading symbol is "VRB". The Company's trading symbol on the Frankfurt Stock Exchange is "NWN.F" and "VRBFF" on the United States OTC Markets.

# **MINERAL PROPERTIES**

# Lac Dore Property, Québec

The Company holds a 100% ownership in the Lac Dore Vanadium, Iron and Titanium Property ("Lac Dore Property"). The Lac Dore Property is located approximately 27 km east-southeast from the city of Chibougamau, in Eeyou Istchee James Bay Territory, Nord-du-Québec administrative region, Province of Québec, Canada. The property comprises two discontinuous groups of claims that straddle the border between National Topographic System (NTS) map sheets 32G-16 and 32H-13, Lac Dore Main to the south, and Lac Dore North to the north. The center of the property lies at approximately Latitude 49°50'N, Longitude 74°0'W.

The Lac Dore magnetite deposit was discovered in 1948 through an aeromagnetic survey and has since been the subject of historical exploration by several companies with work carried out, including mapping, channel sampling, drilling, metallurgical test work, resource estimates, and feasibility studies. A large amount of historical data is available, but historical data considered most relevant are:

- The results of an extensive drilling program carried out by SOQUEM Inc. (SOQUEM), beginning in 1979.
- A 1997 stripping and sampling program by McKenzie Bay Resources Ltd (McKenzie Bay), including sampling and assaying of 1734 diamond-cut samples along a series of northwest-southeast lines.
- Seven drillholes completed by McKenzie Bay on the ground now held by the Company (i.e. within the current claim holdings).
- Four drillholes were completed by the Company (recorded as PacificOre Mining in the assessment filing registry)
  in 2013. Although conducted by the Company, they are considered historical as they were not drilled as part of
  the most recent program.
- Other than drilling, the Company carried out several ground magnetic surveys between 2009 and 2013.

The Lac Dore Property is located at the northeast end of the Abitibi greenstone belt, which is host to several Archaean mafic intrusions, including the Lac Dore Complex (LDC) near Chibougamau, which has been emplaced into volcano-sedimentary host rocks and has in turn been intruded by the felsic Chibougamau Pluton.

The LDC is a layered mafic complex and is comparable to other better-known complexes such as the Bushveld Complex in South Africa, and the Lac Dore Property area (located in the Layered Zone of the LDC) is underlain by anorthosite, gabbro, magnetitite, and pyroxenite in varying proportions.

Magnetite deposits in layered complexes such as at Lac Dore are formed through primary magmatic processes, and the magnetite-bearing units (as well as the intervening mafic rocks that may contain little amounts of magnetite) are generally continuous along strike. This is the case at Lac Dore, where magmatic layering has formed several zones of magnetite-rich or magnetite-poor lithologies. Based on detailed correlation of lithological units logged during the 2019-2020

exploration campaign, a magmatic stratigraphy comprising nine units has been defined (PO, P1, P2-LOW, P2-A, P2-PART, P2-B, P2-HW P3, P3-HW).

Mineralization is in the form of vanadiferous-titanomagnetite (VTM), which forms a significant proportion of the lithologies and in some cases may make up close to 100% of the lithological unit. Each of the mineralized zones varies in thickness across the 3 km of strike, as outlined, and the entire mineralized zone varies between 200 m and 300 m in thickness. The lithologies and overall magmatic stratigraphy, dip at approximately 50--60° to the southeast and have been drill tested to depths of at least 220 m below the surface.

The concentration of vanadium and titanium within the magnetite varies with stratigraphic height. The magnetite from stratigraphically lower units (P1, P2-LOW) are more enriched in vanadium, and have relatively low titanium levels, whereas stratigraphically higher levels (P3) have lower vanadium and higher titanium in magnetite. Titanium and vanadium levels in magnetite remain relatively constant within units and along strike.

Exploration and drilling in 2019 and 2020 were managed by InnovExplo Consultants, who also provided the consulting geologists who carried out the logging, sampling, and database management at the project. The Company retained CSA Global Consultants Canada Limited ("CSA"), with Dr. Luke Longridge, P. Geo. as the lead consultant. CSA produced a Technical Report titled "Lac Doré Project, Chibougamau, Québec, Canada, Dec. 10, 2020." The full technical report is available on the Company's website and SEDAR.

The Company commissioned an airborne light detection and ranging (LiDAR) survey in 2020 and a detailed digital terrain model (DTM) prepared. Several historical trenches were partially resampled for verification purposes in 2019, using channel sampling.

During 2019 and 2020, VanadiumCorp has carried out drilling of 37 new diamond drillholes (9,601.8m), as well as resampling of old drill core and surface channel samples.

Drilling at the Lac Dore Project was carried out in September and October 2019 by Miikan Drilling Ltd of Chibougamau. NQ diameter diamond drill core was delivered to the Company's core facility in Chibougamau at the end of each shift. The drilling program and drilling contractors were managed by InnovExplo Consultants, who also provided consulting geologists who carried out the logging, sampling, and database management at the project. Collars were surveyed by an independent surveyor. Downhole azimuth and dip measurements were taken every run using a Reflex gyro-based instrument.

Core was split using a diamond saw and sampled predominantly 1.5 m intervals. Samples were shipped to SGS Canada Inc.'s facilities in Val d'Or and Québec City, Québec for preparation, and were analyzed using x-ray fluorescence (XRF) spectroscopy at SGS Canada Inc.'s Lakefield facility for Whole Rock Analysis. The suite of elements analyzed includes SiO<sub>2</sub>, Al<sub>2</sub>O<sub>3</sub>, Fe<sub>2</sub>O<sub>3</sub>, MgO, CaO, Na<sub>2</sub>O, K<sub>2</sub>O, TiO<sub>2</sub>, P<sub>2</sub>O<sub>5</sub>, MnO, Cr<sub>2</sub>O<sub>3</sub>, V<sub>2</sub>O<sub>5</sub>, and loss on ignition (LOI).

QAQC samples comprising 5% each of standards and blanks were included with each shipment. The certified reference materials (CRMs) used by VanadiumCorp were supplied by AMIS (A Division of Torre Analytical Services (Pty) Limited, South Africa) included AMIS0567, AMIS0501, and AMIS0347. Blanks include both certified blank materials and silica sand. Results for CRMs and banks indicate no bias or contamination in the samples. Internal laboratory duplicate analyses show an excellent correlation between original and repeat analyses, indicating no nugget effect.

Data Verification of historical results included resampling the 1997 trenches/channels originally sampled by McKenzie Bay (202 channel samples selected from 13 trenches), complete resampling of 2013 drill core (210 quarter-core samples), and twinning of several historical holes. Comparison of historical data with current data verifies and validates the use of the historical data. Longridge (2020) is of the opinion that the data from the Lac Dore Project (with particular reference to 2019 drilling) is acceptable for Mineral Resource estimation. Analytical results are considered to pose minimal risk to the overall confidence level of the MRE.

Metallurgical test work was limited to magnetic separation carried out using Davis Tube tests at SGS Canada Inc.'s facilities in Val-d'Or, Québec, to create magnetite concentrates which were then assayed to evaluate the iron, vanadium and titanium grades of the concentrates Samples were composited from pulp rejects previously prepared for assay. Samples were selected from all stratigraphic zones identified within the deposit. Magnetite content correlates with the iron content of the head grade, whereas vanadium contents vary by stratigraphic zone, with lower stratigraphic zones (P0, P1, P2-LOW) having elevated  $V_2O_5$  values in the concentrate (approximately 1.4% to 1.6%  $V_2O_5$ ), with the stratigraphically

highest zone (P3 having grades of approximately 0.8% to 1.0%  $V_2O_5$ ). Iron grade of the concentrates varies but on average remains constant at approximately 62%. Titanium grades of the concentrates show a linear inverse correlation with the vanadium grade of the concentrate.

The Company commissioned CSA Global to complete a mineral resource estimate ("MRE") and a Technical Report on the Lac Doré Project, with an effective date of October 29, 2020. This report is in accordance with disclosure and reporting requirements set forth in National Instrument 43-101—Standards for Disclosure for Mineral Projects (NI 43-101), Companion Policy 43-101CP, and Form 43-101F1. This Technical Report discloses material changes to the Property, particularly, an MRE at the Lac Doré deposit. The Mineral resource update has been prepared in accordance with CIM Definition Standards for Mineral Resources and Mineral Reserves (10 May 2014) as per NI 43-101 requirements. Only Mineral Resources are estimated – no Mineral Reserves are defined. See the table, following, for the summary of the mineral resources at the Lac Dore property.

Longridge (2020) concluded that VTM mineralization at the Lac Doré Project shows similarities to other magmatic VTM deposits associated with layered mafic intrusive complexes. In particular, the concentration of magnetite into several laterally continuous, tabular, stratiform zones, and the change in the ration of vanadium and titanium in the magnetite through the stratigraphy (from high-V2O5, low-TiO2 layers in the lower layers to low-V2O5, high-TiO2 in the upper layers) in typical of these deposit types.

Several stratigraphic zones of mineralization have been identified, all strike northeast, dip at 50–60° to the southeast, and cumulatively have a true thickness of between 200 m and 300 m. Longridge (2020) concluded the Mineral Resources have been estimated with sufficient confidence to allow for more advanced studies to take place at Lac Doré Main, where future work would focus on metallurgical testwork, mining studies, environmental testwork, and other work necessary for advanced studies, termed Phase 1 in his recommended budget.

# Mineral Resource Estimate- Lac Dore Property, Quebec – CSA Global, Longridge (2020) Table 17

Global, Longridge (2020) Table 17						
Table 17:	MRE at Lac Doré with an effective date of 27 October 2020 (*recovery not applied to V₂O₅ in concentrate)					

	Classification	Mt	V <sub>2</sub> O <sub>5</sub> (%)	Fe (%)	TiO <sub>2</sub> (%)	Magnetite (%)	V <sub>2</sub> O <sub>5</sub> (kt)	Fe (Mt)	TiO <sub>2</sub> (Mt)	V <sub>2</sub> O <sub>5</sub> (Mlb)
	Measured	23.98	0.5	33.7	9.9	34.5	128	8.1	2.4	280
Head Grade	Indicated	190.96	0.4	26.3	6.7	23.4	837	50.2	12.8	1,850
(In situ)	Measured + Indicated	214.93	0.4	27.1	7.1	24.6	965	58.3	15.2	2,120
	Inferred	86.91	0.4	28.0	7.6	25.9	387	24.4	6.6	850
	Classification	Magnetite concentrate (Mt)	V₂O₅ in concentrate (%)	Fe in concentrate (%)	TiO <sub>2</sub> in concentrate (%)		V <sub>2</sub> O <sub>5</sub> in concentrate (kt)	Fe in concentrate (Mt)	TiO <sub>2</sub> in concentrate (Mt)	V <sub>2</sub> O <sub>5</sub> in concentrate <sup>4</sup> (Mlb)
Magnetite Concentrate	Measured	8.27	1.2	62.0	9.4		100	5.1	0.8	220
	Indicated	44.70	1.3	62.0	8.5		578	27.7	3.8	1,270
	Measured + Indicated	52.82	1.3	62.0	8.7		678	32.8	4.6	1,490
	Inferred	22.52	1.2	62.0	9.2		277	14.0	2.1	610

#### Notes:

- Mineral Resources are estimated and reported in accordance with the CIM Definition Standards for Mineral Resources and Mineral Reserves adopted 10 May 2014.
- Sum of individual amounts may not equal due to rounding.
- Geological and block models used data from 41 drillholes drilled by VanadiumCorp in 2013 and 2019, in addition to 44 drillholes and 33 surface channel samples completed previously and verified through twinning or resampling in 2019–2020.
- The drill database was validated prior to estimation, and drillholes were flagged with interpolation domains (P1, P2-LOW, P2-A, P2-PART, P2-B, P2-HW, P3), composited to 1.5 m intervals, and capped for anomalously high and low-grade values. QAQC checks included insertion of blanks, CRMs, pulp duplicates and umpire assays performed at a second laboratory.
- Head grades and densities were interpolated onto 10 m x 10 m x 10 m blocks using OK, owing to intercalations of high and low magnetite within broadly mineralized intervals, a high-grade or low-grade indicator was used, and separate interpolations carried out for high-grade or low-grade samples, with the proportion of high-grade mineralization within each block also interpolated using OK.
- All the estimates were validated visually using sections and 3D visualization, and using swath plots, comparison of averages in drillhole and blocks, and global change of support.
- Magnetite contents and concentrate grades were calculated using regression formulae deduced from Davis Tube results.
- Resource classification was done using wireframes digitized using kriging variance as a reference and correspond to Measured Resources having drillholes spacing <40 m,</li>

- Indicated Resources having drillhole spacing between 40 m and 100 m, and Inferred Resources having a drillhole spacing >100 m.
- Mineral Resources are reported using a "net value" cut-off, calculated assuming an open pit mining operation and extraction of saleable vanadium pentoxide flake from the magnetite concentrate via the salt-roast process. The calculation assumes a V<sub>2</sub>O<sub>5</sub> price of US\$7/lb, 85% recovery of magnetite to the concentrate, 75% recovery of vanadium in the roast/leach extraction process, and costs of US\$3/t ROM (mining), US\$15/t concentrate (magnetite concentrate production), US\$5/t concentrate (roast/leach), US\$2/t ROM (G&A), and US\$1.5/t ROM (tailings disposal). A net value equal to zero was used for reporting.
- Mineral Resources are constrained by a pit shell optimized with the software SimSched using the above parameters and including a cost of US\$3/t for waste rock extraction and assuming maximum pit slope angles of 45°.
- Adrian Martinez, P.Geo (ON), OGQ Special Authorization, CSA Global Senior Resource Geologist, is the independent Qualified Person with respect to the MRE.
- Recoveries of V<sub>2</sub>O<sub>5</sub>, Fe<sub>2</sub>O<sub>3</sub> and TiO<sub>2</sub> to the magnetite concentrate are variable.
- Mineral Resources are constrained by claim boundaries.
- VanadiumCorp is not aware of any environmental, permitting, legal, title, taxation, socio-economic, marketing or political factors that might materially affect these MREs.
- These Mineral Resources are not Mineral Reserves as they do not have demonstrated
  economic viability. The quantity and grade of reported Inferred Resources in this MRE
  are uncertain in nature and there has been insufficient exploration to define these
  Inferred Resources as Indicated or Measured; however, it is reasonably expected that
  the majority of Inferred Mineral Resources could be upgraded to Indicated Mineral
  Resources with continued explorations.

Additional exploration work would focus on the Lac Doré North Property that is listed as Phase 2 below. That work would test for mineral resources on strike with the Lac Dore Main deposit. **All funds in the recommendation are in US dollars.** 

Recommended work		Details	Estimated cost (US\$)		
Phase 1: Work	Environmental studies		1,000,000		
required for prefeasibility or other	Metallurgical testwork including grind optimization, vanadium extraction testing	50 samples for grind optimization, five samples for vanadium extraction testwork	500,000		
advanced studies at Lac Doré Main	Submission of core duplicates	400 samples	40,000		
	Mining studies		150,000		
	Infrastructure studies		100,000		
	Detailed marketing studies		100,000		
	Total estimated costs – Phase 1		1,890,000		
Phase 2: Work required at Lac Doré	Additional drilling	Estimated 10 drillholes (2,000 m) for an Inferred MRE	200,000		
North	Sampling and assaying	1,000 samples	100,000		
	Mineral Resource estimation		50,000		
	Total estimated costs – Phase 2	350,000			
GRAND TOTAL	GRAND TOTAL				

CSA Global, Longridge (2020) Recommended Work Program, Lac Dore Main and Lac Dore North

The Company intends to execute this recommendation, with a focus on the Lac Dore Main deposit. Additionally, the Company's program of research with its novel VEPT hydrometallurgical is progressing. Careful execution of the Lac Dore Main Phase 1 program, in conjunction with a commercially proven VEPT process will lead to feasibility stage studies.

# Iron-T Property, Quebec

The Iron-T Property is located in the Nord-du-Québec administrative region in the Province of Quebec, approximately 15 km east of the town of Matagami and 780 km northwest of Montreal. The Property straddles the townships of Isle-Dieu, Lozeau, Galinée and Comporté on NTS map sheets 32F11 (Rivière Opaoca), 32F12 (Ile Bancroft), 32F13 (Matagami) and 32F14 (Lac Olga).

All mineral titles are held 100% by the Company. The Property currently consists of one block of one hundred and thirty-one (131) claims staked by electronic map designation ("map-designated cells"), for an aggregate area of 6,905.82 hectares.

The Company has performed minimal work on the Iron-T property since 2014. Several mining companies have conducted exploration work since 1958 on or in the vicinity of the actual Iron-T property. The main interest was directed toward base metals mineralization following initial discoveries in the Matagami mining camp. VanadiumCorp (Apella Resources Inc. at the time) first worked the Iron-T property in 2007. The Company reviewed the historical diamond drilling completed on the Iron-T property from existing historical logs, sections, and maps. The most significant drilling results in regard to oxide mineralization were generated by Juna Mining & Exploration Ltd, SDBJ and Noranda. Maxime Dupéré, P.Geo. of SGS Geostat validated that historical drilling information.

Starting in 2009, VanadiumCorp completed a first and second drill campaign totaling 27 diamond drillholes and 2 trenches totaling 3,470 meters. This drilling to May 13th, 2010, was utilized in a maiden mineral resource estimation (The "2010 MRE") issued by Maxime Dupéré, P.Geo. of SGS Geostat, titled, "Technical Report Vanadium-Titanium-Iron Resource Estimation of the Iron-T Property Matagami Area, Quebec, Canada." The report presented resource measuring, 11.63 Mt bearing 37.88%  $Fe_2O_3$ , 6.33%  $TiO_2$  and 0.40%  $V_2O_5$  in the inferred category using a cut-off grade of 0.48%  $V_2O_5$ . This historical estimate is not considered a current estimate by the Company.

The 2010 MRE recommended continuing drilling and provides a purely conceptual budget of \$2,623,500. The SGS budget includes 11,000 meters of diamond drilling excluding numerous program support costs which would be additional;

By July 21, 2010, VanadiumCorp had completed a third drilling campaign totaling over 2,349 meters and sampling 3 trenches also in the Lac Olga-Ouest mineralized zone.

In 2011, a mineral resource estimate (the "2011 MRE") was issued on behalf of the Company for the Lac Olga-Ouest mineralized occurrence (the "Genesis Zone"). A report by M. Dupere, P.Geo. of SGS Canada Inc. – Geostat, titled "Technical Report – Resource Update of the Iron-T Vanadium-Titanium-Iron Property, Matagami Area, Quebec" dated May 19, 2011, stated that the zone contains 14.37 Mt bearing 39.04%  $Fe_2O_3$ , 6.55%  $TiO_2$  and 0.42%  $V_2O_5$  in the inferred category using a cut-off grade of 0.48%  $V_2O_5$ . This historical estimate is not considered a current estimate by the Company.

The 2011 MRE was prepared using the results of the 2009-2010 drilling program. However, the Company conducted further drilling in 2011, and these results were not included in the resource estimate.

Drilling programs from 2009 to 2011 revealed further potential for mineralization on the Property.

- Specifically, down-dip and step-out drill holes intersected mineralization with similar grades to those from the 2011 resource area, thereby demonstrating that the Main Zone remains open at depth and along trend.
- Several holes drilled in the Lac Shallow-Ouest area in the western half of the Property intersected V-Ti-Fe mineralization with similar features to the Lac Olga- Ouest showing, specifically the grades, the geological setting, and the coincident broad geophysical signature.
- Consistent drill results, trench samples and aeromagnetic responses along the entire 22 km strike-length indicate remarkably similar geology to the Lac Doré Vanadium Project including virtually no impurities and exceptional metallurgical recoveries.

Priority for exploration shifted to the Company's Lac Dore property in 2013 and the Iron-T was put on maintenance only.

The Iron-T property is located within the Matagami volcanic complex in the northern part of the Abitibi Greenstone Belt which represents one of several EW trending belts composed of a series of volcanic, sedimentary, and intrusive rocks within the Superior Province. Sharpe (1968) defined the stratigraphy of the Matagami area and identified two Archean volcanic packages, the Watson Lake Group marking the first of two phases of Archean volcanism characterized by the extrusion of bimodal Fe-rich, tholeite volcanic rocks. The overlying Wabassee Group is characterized mainly by calcalkaline basaltic to andesitic volcanics with some localized felsic units near its base.

The Watson Lake and Wabassee groups are intruded by the Bell River Complex, a large, 750 km2 layered synvolcanic intrusion dated 2724.6 ± 2.5 Ma (Mortensen, 1993). The Iron-T Property includes a few historical V-Ti-Fe mineralized occurrences and showings in the Bell River Complex (e.g., Lac Olga-Ouest and Lac Shallow-Ouest), as well as magmatic Cu-Ni mineralization (Lac Shallow-Est).

Geological setting and mineralization encountered on the Iron-T Vanadium-Titanium-Iron property located in the Bell River Complex indicates many similarities with typical large magmatic Fe- Ti-V oxide deposits associated with a layered intrusive complex consisting mainly of layered and massive concentrations of titanomagnetite, titaniferous magnetite, magnetite, and ilmenite.

The vanadium mineralization is associated with titanomagnetite, magnetite and ilmenite layers within the layered ferrogabbro zone. Vanadium is mostly associated with the titanomagnetite and magnetite mineral species.

Taner et al. (1998) conducted a mineralogical and petrological study of vanadium mineralization in the Bell River and Lake Doré Complex. This study indicates that the vanadium mineralization is associated to magnetite and ilmenite layers within the layered ferrogabbro zone of the upper part of the Bell River Complex. The oxide-rich gabbro horizons varying in width from 10 to 100 m clearly appear on the airborne regional magnetic survey. The oxide-rich gabbro is a mineralized cumulate forming either homogeneous horizons with disseminated oxide mineral contents ranging from 20 to 60% or homogeneous massive layers with oxide mineral contents varying from 60 to 90%. Massive oxide mineralized bands are interlayered with poorly mineralized gabbro forming pluri-centimetric to decimetric scale interlayers. Mineralized layering of the gabbro dips north from 75° to 85°.

On October 30, 2019, the Company announced it had entered into a definitive agreement (the "Agreement") with 11626191 Canada Inc., a private company ("Private Company") whereby the issuer can earn a 100% interest in the Property. On March 12, 2020, the Company announced in a press release that the project transaction had closed.

Private Company has the right to:

- Earn a 75% interest on completion of \$5 million in exploration expenditures and \$1 million in cash and stock payments to VanadiumCorp before the 4th anniversary of the signing of the Agreement ("First Option").
- Earn an additional 10% interest on completion of a preliminary economic assessment ("Second Earn-in"); and
- Earn an additional 15% interest on completion of a positive feasibility study ("Third Earn-in").

The Private Company will become the operator and responsible for ongoing costs related to the Iron-T Project and will have the right to accelerate the exercise of the earn-in by completing all the exploration expenditures and any outstanding cash and stock payments to the Company in a period shorter than the earn-in term.

Should the project reach production, Private Company will grant the Company a right of first refusal ("Offtake ROFR") to acquire (i) 100 000 MTPA of the VTM concentrate at cost price and (ii) 100 000 MTPA of a VTM concentrate market price, being agreed that the total concentrate 200,000 MTPA in aggregate) allotted to the Company cannot exceed a maximum of ten percent of total VTM concentrate tonnage established.

### MINERAL INTERESTS

The following is a summary by province of the Company's mineral interests, which includes acquisition and exploration costs, impairment and tax credits (government assistance) during the period (see notes below):

	Iron-T	Lac Dore	Total
	\$	\$	\$
Balance, October 31, 2019	1,919,365	2,776,743	4,696,108
Exploration costs:			
Consulting	-	361,286	361,286
Drilling	-	474,981	474,981
Field work	5,432	99,345	104,777
Balance, October 31, 2020	1,924,797	3,712,355	5,637,152
Exploration costs:			
Consulting	-	1,364	1,364
Drilling	-	900	900
Field work	-	30,716	30,716
Balance, January 31, 2021	1,924,797	3,745,335	5,670,132

#### OTHER OPERATIONS

# **Hydrometallurgical Process Research and Development**

The Company's main mineral deposit assets are dominated by titanomagnetite, magnetite and ilmenite mineralization. The dominant metal is iron. The Iron-T and Lac Dore deposits have been subject to metallurgical testing that indicates the concentrates will be almost entirely titanomagnetite.

Currently, the Company's commercial processing alternates for titanomagnetite include:

- Conventional steel production: However, the Company's concentrates will contain too much titanium (greater than 1% TiO<sub>2</sub>) to produce good quality iron concentrates for conventional steel production. Worldwide, titanomagnetite deposits are a minor part of iron ore production.
- A pyrometallurgical plant employs a pre-reduction of titanomagnetite concentrate to produce reduced ore, which is then passed into an electric arc furnace to produce pig iron. Subsequently, slags from steel making are roasted to recover vanadium. The process requires inputs of anthracite coal, coal, and natural gas.
- The conventional roast-leach process flow sheet comprises the following: three stages of crushing, one stage of grinding, two stages of magnetic separation, magnetic concentrate roasting in the presence of a sodium salt, vanadium leaching, ammonium meta-vanadate (AMV) precipitation, AMV filtration, AMV calcining, and fusing to V<sub>2</sub>O<sub>5</sub> flake as final product. TiO<sub>2</sub> and Fe<sub>2</sub>O<sub>3</sub> are waste in this process and project economics rest solely on the recovery of V<sub>2</sub>O<sub>5</sub>. The process requires inputs of anthracite coal, coal, and/or natural gas.

To reduce potential greenhouse gas emissions and gain value from all the iron, titanium, and vanadium contents of the Lac Dore concentrates, in 2016, the Company partnered with Dr. Francois Cardarelli of Electrochem Materials & Technologies Inc. "Electrochem" in Canada which resulted in Electrochem inventing a novel hydrometallurgical process for recovering for vanadium, iron, and titanium products from various feedstocks and waste streams.

- By February 28, 2017, VanadiumCorp applied jointly with Electrochem for US Provisional Patent Applications: US 62/463,411 and US 62/582,060. and officializing VanadiumCorp's 50% ownership of VanadiumCorp-Electrochem Chemical Process Technology ("VEPT"). as it pertains to signed agreements and all future intellectual property.
- On August 30th, 2018, VanadiumCorp entered the national entry phase for the VEPT when The World Intellectual Property Organization "WIPO" (www.WIPO.int) officially published the Patent Cooperation Treaty "PCT" of the International Patent Application WO 2018/152628 (A1) entitled: "METALLURGICAL AND CHEMICAL PROCESSES FOR RECOVERING VANADIUM AND IRON VALUES FROM VANADIFEROUS TITANOMAGNETITE AND VANADIFEROUS FEEDSTOCKS".
- On February 14, 2019, VanadiumCorp) and Electrochem filed national entry for VEPT in both Canada and Australia.
- On February 26, 2019, VanadiumCorp) and Electrochem filed national entry for VEPT in South Africa, India and the United States
- During the year ended October 31, 2019, the Company expanded its Intellectual Property portfolio into the European Union by filing national entry for VEPT.
- On November 24, 2020, the Company exercised its option to purchase 100% of the VEPT process rights.
- On December 2, 2020, the US Patent & Trademark Office (USPTO) issued a notice of allowance for the US Patent Application US 2020/0157696 A1 and entitled "Metallurgical and Chemical Process For Recovering Vanadium And Iron Values From Vanadiferous Titanomagnetite and Vanadiferous Feedstocks."

The VEPT process recovers vanadium, iron, titanium, and silica values from vanadiferous feedstocks. More specifically, VEPT relates, but not exclusively, to a metallurgical process in which vanadium, iron, titanium, and silica values are recovered from vanadiferous feedstocks such as vanadiferous titanomagnetite, iron ores, vanadium slags and industrial wastes and by-products containing vanadium. The VEPT process broadly comprises:

- Digesting the vanadiferous feedstocks into sulfuric acid thereby producing a sulfation cake;
- Dissolving the sulfation cake and separating insoluble solids thereby producing a pregnant solution;
- Reducing the pregnant solution using, in some configurations, electrolyzers thereby producing a reduced pregnant solution;

- Crystallizing ferrous sulfate hydrates ("Copperas") from the reduced pregnant solution, producing an iron depleted reduced solution;
- The process further comprises removing titanium compounds from the iron-depleted reduced solution, thereby producing titanium hydrolysate and a vanadium-rich pregnant solution; and,
- Concentrating vanadium and recovering vanadium products and/or a vanadium electrolyte.

Currently, the Company conducts VEPT research and development with a bench-scale pilot reactor situated at Electrochem Technologies & Materials Inc. in Boucherville, Quebec, Canada. Commercial development will employ either existing sulfation plant facilities available in Europe or the Company's own pilot plant to be constructed with off-the-shelf reactors.

As VEPT is pre-commercial, the Company plans to further improve and optimize areas of the process flowsheet including the design of a continuous sulfuric acid digestor and the recycling of sulphuric acid from ferrous sulphate (Copperas). Both improvements, if realized, have the potential to reduce the VEPT process capital expenditures and operating costs. These design improvements are sought as part of the upcoming Pilot Plant stage to facilitate economic studies of the Lac Dore deposit and the integration of VEPT in the metallurgical process. The Company has not yet raised the needed funds to initiate Pilot Plant studies or to initiate economic studies.

# **Development of Vanadium Flow Battery Technology**

During February 2020, the Company signed a Memorandum of Understanding with Delectrik Systems Pvt Ltd. ("Delectrik") of India. Delectrik is a manufacturer of vanadium redox flow battery ("VRFB") systems that are currently marketed in the India and Australia. The Company and Delectrik seek to develop integrated energy storage solutions for Europe and North America.

Upon a successful VRFB demonstration, the Company and Delectrik intend to enter into a definitive agreement which may include manufacturing rights and other considerations supporting commercial-scale production.

In March 2020, the Company announced that its wholly owned subsidiary in Germany, VanadiumCorp GmbH, signed an order and contract for a demonstration vanadium redox flow battery system and a Memorandum of Understanding with Ecosource NV ("Ecosource"), a Cordeel Group NV company. The Company commissioned the installation and successful operation of a contract manufactured VRFB system from Delectrik incorporating the Company's innovation. Currently, Ecosource is testing the operational performance of the system.

### **FINANCIAL**

The Company's consolidated financial statements are presented on a going-concern basis and assume that the Company will continue to realize on its assets and discharge its liabilities in the normal course of operations. The Company has no significant source of operating cash flow and no revenues from operations. None of the Company's mineral projects currently have identified reserves. The Company has limited financial resources. Substantial expenditures are required to be made by the Company to establish ore reserves.

Future revenue could be generated by licensing or commercializing VEPT or the sale or optioning of prospective projects to other junior resource companies or to major mining corporations or alternatively, by the internal development of one or more of the projects, should this prove feasible. In the meantime, the Company intends to continue to rely upon the issuance of securities to finance its future activities but there can be no assurance that such financing will be available on a timely basis or on terms acceptable to the Company.

Although the consolidated financial statements do not include any adjustments that may result from the inability to secure future financing, such a situation could have a material adverse effect on the Company's ability to operate and thus on the Company's financial position.

The reader is also directed to Note 14 of the Company's January 31, 2021, unudited Interim consolidated financial statements regarding risk management.

#### SELECTED ANNUAL INFORMATION

#### STATEMENT OF FINANCIAL POSITION 2020 AND 2019:

Cash decreased by \$355,357 for fiscal 2020 as compared to 2019 as more funding was secured in 2019.

Prepaid and deposits decreased by \$78,231 during fiscal 2020 as the prior year's deposits were recognized and expensed in 2020. There were no other significant or unusual changes regarding other current assets.

The Company adopted IFRS 16 and recorded \$62,876 as Right-of use asset pertaining to subsidiary's office lease in 2020. This transaction is offset by the recognition of \$61,127 on the liability section as a current portion of the lease liability.

Exploration and evaluation asset increased \$941,044 due to further exploration expenditures incurred on the Company's mineral properties.

Accounts payable and accrued liabilities decreased by \$284,245 corresponding to a lower cash position in 2020 as more accounts were paid.

Flow-through share premium liability was \$Nil in 2020 and \$520,547 in 2019. The flow-through share premium liability account is strictly a timing event based on the recognition of the premium pricing of flow-through financing and the expenditure of exploration costs.

### STATEMENT OF COMPREHENSIVE LOSS 2020 AND 2019:

Net loss for fiscal 2020 was 672,429 as compared to a net loss of \$1,489,235 in 2019. The main single reason for the decrease in loss in 2020 was the recognition of a non-cash item of \$828,240 in recovery on flow-through liability. Normal types of expenses was increased decreased depending on levels of activities as dictated by management. During 2020, generally, expenses were higher due to the establishment of a German subsidiary to market and the sales of the Company's vanadium redox flow battery.

# **Results of Operations:**

# For the Three Months Ended January 31, 2021 and 2020

During the period ended January 31, 2021, the Company recorded a loss of \$1,114,792 as compared to a loss of \$285,284 for the period ended January 31, 2020. The main single reason for the significant increase in 2021 is due to the recording of \$578,000 in share-based compensation as compared to \$Nil in 2020.

Noted major differences involved the following accounts:

- a) Consulting fees of \$171,260 (2020 \$118,434) The increase in 2021 was mainly due to additional consultants being engaged by the Company during the period.
- b) Depreciation of \$16,602 (2020 \$1,692) In 2021 under IFRS, lease rental expense is now basically recognized as a depreciation of a right-of-use asset. In 2020, the adjustment under IFRS was not recorded until the fourth quarter.
- c) Directors' fees of \$5,000 (2020 \$58,373) Such fees are based on time incurred by certain directors on projects. More time was incurred in 2020.
- d) Management fees \$Nil (2020 \$15,000) in 2021, the CFO did not charge the Company any management fees
- e) Office expenses \$19,020 (2020 \$46,159) During 2021, management cut back overhead to conserve capital.
- f) Professional fees of \$29,795 (2020 \$14,271) The higher fees in 2021 was mainly due to an increase in legal fees incurred for general corporate purposes and costs related to possible acquisitions.
- g) Research and development expenditures ("R&D") of \$21,106 (2020 \$Nil) These costs were incurred in relation to an agreement to collaborate on metallurgical and electrochemical technologies.
- h) Salaries and wages \$106,378 (2020 \$48,383) Salaries and wages increased substantially in 2021 due to additional personnel employed with the Company's German subsidiary.

- i) Shareholder communications \$96,759 (2020 \$1,429) During 2021, management launched a significant marketing campaign to promote the Company's business and new initiatives.
- j) Share-based payment of \$578,000 (2020 \$Nil) This is a non-cash item based on the fair value of stock options granted. No stock options were granted in 2020.
- k) Travel and entertainment of \$2,863 (2020 \$33,644) Decrease in travel in 2021 due to Covid-19 restrictions.

### **SUMMARY OF QUARTERLY RESULTS**

The following is a summary of the Company's financial results under IFRS for the eight most recent quarters:

	January 31, 2021 \$	October 31, 2020 \$	July 31, 2020 \$	April 30, 2020 \$	January 31, 2020 \$	October 31, 2019 \$	July 31, 2019 \$	April 30, 2019 \$
Total revenue Net loss	-	-	-	_	_	_	_	_
(income) for period	(1,114,792)	108,974	(245,923)	(250,196)	(285,284)	(359,167)	(87,053)	(228,020)
Loss per share	0.00	0.00	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)

Main cause for the significant increase in loss during the quarter of January 31, 2021was due to the recognificant of \$578,000 in share-based compensation (a non-cash item). The difference from the previous quarter was further magnified as \$828,240 was recorded as a recovery on flow-through liability (a non-cash item).

# LIQUIDITY AND SOLVENCY

The Company has limited capital resources and has to rely upon the sale of securities for cash required for exploration and development purposes, for acquisitions and to fund the administration of the Company. Historically, the Company has raised funds through private placements, loans, shares for debt settlements, and the exercise of options and warrants.

# • <u>2021:</u>

The Company closed three non-brokered private placements for gross proceeds of \$1,500,000. (included in the \$1,500,000 figure, \$159,400 was closed subsequent to January 31, 2021).

# 2020:

The Company closed four non-brokered private placements for gross proceeds of \$1,282,503 and an additional \$918,000 through the exercising of warrants for a total gross amount of \$2,200,503.

At at January 31, 2021, the Company had cash and cash equivalents of \$482,623 and working capital of \$440,860.

The Company is presently insufficient funded to cover overhead expenses and to finance any major exploration work. Due to the Company's current situation of delinquent in the filing of its financial statements and documents, it has been ceased-traded and the Company is unable to secure any financing through public means. Management is working expeditiously and is expected to be current in the Company's financial filings within weeks. Management believes the Company can raise new funds once the cease trade order has been lifted and the Company will be able to fulfill its financial commitments and to continue to develop its projects, however, there are no assurances that management will be successful in its goals.

# **RELATED PARTY TRANSACTIONS**

Transactions with related parties were at the amounts agreed to by the related parties. Related party transactions not otherwise disclosed in these consolidated financial statements were as follows:

- a) During the period months ended January 31, 2021, the Company paid a salary of \$106,378 (2020 \$30,000).
- b) During the period ended January 31, 2021, the Company incurred management fees of \$Nil (2020 \$15,000) to the Chief Financial Officer of the Company.
- c) During the period ended January 31, 2021, the Company incurred consulting fees of \$22,000 (2020 \$45,000) to a director and a company controlled by a director of the Company.
- d) Included in receivables at January 31, 2021 is \$1,359 (2020 \$25,981) owed from a director and an officer.
- e) Included in accounts payable and accrued liabilities at January 31, 2021 is \$157,000 (2020 \$132,000) owing an officer and former director.
- f) During the period ended January 31, 2021, the Company incurred directors fees of \$5,000 (2020 \$27,000).
- g) During the period ended January 31, 2021, the Company recorded share-based payments for options granted to directors and officers totalling \$432,000 (2020 \$Nil).

During the period ended January 31, 2021, the Company recorded share-based payments for options granted to directors and officers totalling \$432,000 (2020 - \$Nil).

In the normal course of business, the Company advances and/or reimburses directors and officers for expenses incurred on the Company's behalf. Amounts due to and from related parties are non-interest bearing, unsecured and due on demand

### SHARES, WARRANTS AND OPTIONS OUTSTANDING

# **Share Capital**

Authorized: unlimited common shares without par value

	Number of Shares	Amount \$
Balance - October 31, 2020	299,251,120	33,849,120
Shares issued for cash	18,406,000	1,340,600
Balance - January 31, 2021	317,657,120	35,189,720

<sup>1,594,000</sup> units were issued in February, 2021 for gross proceeds of \$159,400.

As at the date of this MD&A there were 319,251,120 shares issued and outstanding.

# **Warrants Outstanding**

Details of share purchase warrants outstanding at January 31, 2021:

Number of Warrants	Exercise Price \$	Expiry Date	Remaining Life (Years)
5,700,000	0.07	November 18, 2021	0.80
1,990,000	0.07	January 30, 2022	1.00
4,418,699	0.10	April 8, 2022 *	1.19
10,000,000	0.10	November 20, 2022	1.81
8,406,000	0.15	January 15, 2023	1.96
30,514,699	0.11		1.52

As of the date of this MD&A there were 32,108,699 warrants outstanding.

# **Stock Options Outstanding**

Details of stock options outstanding at January 31, 2021:

Number of Options	Exercise		
Outstanding	Price \$	Expiry Date	Remaining Life (years)
700,000	0.07	August 12, 2021	0.53
11,800,000	0.12	February 26, 2023	2.08
11,900,000	0.07	January 21, 2024	2.97
3,000,000	0.05	November 11, 2025	4.78
700,000	0.08	November 11, 2025	4.78
100,000	0.10	November 11, 2025	4.78
400,000	0.12	November 11, 2025	4.78
500,000	0.08	December 9, 2025	4.86
5,000,000	0.08	December 9, 2025	4.86
2,600,000	0.12	December 31, 2025	4.92
36,700,000	0.09		

As at the date of this MD&A, there were 36,700,000 stock options outstanding.

# SUBSEQUENT EVENTS

Subsequent to January 31, 2021:

a) 1,594,000 units were issued for gross proceeds of \$159,400 pursuant to a non-brokered private placement. Each unit consisted of one common share and one share purchase warrant, with each share purchase warrant exercisable to purchase one additional common share of the Company at an unit price of \$0.15 for a period of two years from closing.

# OTHER INFORMATION

# **Risks and Uncertainties**

The discovery, development and acquisition of mineral properties are in many respects unpredictable events. Future metal prices, capital equity markets, the success of exploration programs and other property transactions can have a significant impact on capital requirements.

The Company's principal activity is mineral project exploration and development. Companies in this industry are subject to many and varied kinds of risks, including but not limited to environmental, metal prices, political and economic.

Although the Company has taken steps to verify the title to the mineral claims in which it has an interest, in accordance with industry standards for the current stage of exploration of the same, these procedures do not guarantee the Company's title to these mineral claims. Mineral claim entitlement may be subject to unregistered prior agreements or transfers and title may be affected by undetected defects.

The Company has no significant source of operating cash flow and no significant revenues from operations. The Company's properties have no reserves. The Company has limited financial resources. Substantial expenditures are required to be made by the Company to establish ore reserves.

The Company's various projects are in the exploration stages only and are without known bodies of commercial mineralization and have no ongoing mining operations. Mineral exploration involves a high degree of risk and not all projects which are explored are ultimately developed into producing mines. Exploration of such projects may not result in any discoveries of commercially economic bodies of mineralization. If the Company's efforts do not result in any discovery of commercial mineralization on any of its current projects, the Company could be forced to look for other exploration projects or cease operations.

The Company is subject to the laws and regulations relating to environmental matters in all jurisdictions in which it operates, including provisions relating to property reclamation, discharge of hazardous material and other matters. In certain circumstances the Company may also be held liable should environmental problems be discovered that were caused by former owners and operators of the mineral claims and mineral claims in which it has previously had an

interest. The Company attempts to conduct its mineral exploration activities in compliance with applicable environmental protection legislation. The Company is not aware of any existing environmental problems related to its current projects that may result in any kind of material liability to the Company.

#### **Additional Disclosure**

Pursuant to section 5.3 of National Instrument 51-102 "Continuous Disclosure Obligations," issuers who are listed on the Exchange who do not have significant revenue from operations are required to provide additional financial information in their management discussion and analysis. That information is as follows:

The Company is a venture issuer that has not had significant revenue from operations in either of the last two financial years. The Company has capitalized all expenditures relating to the exploration of its various projects. Details of deferred expenditures for each project are shown in the notes to the accompanying financial statements. (see "Mineral Interests") Disclosure concerning the Company's general and administrative expenses is provided in the Company's annual and quarterly consolidated financial statements and the notes therein.

# Disclosure Controls and Procedures and Internal Control Over Financial Reporting

Under Canadian securities laws, because the Corporation is a venture issuer, it is not required to certify the design nor provide an evaluation of its disclosure controls and procedures ("DC&P") and internal control over financial reporting ("ICFR") and therefore, has not completed such an evaluation. Accordingly, this MD&A does not contain a discussion relating to the establishment and maintenance of DC&P and ICFR, as defined in National Instrument 52-109. In particular, management of the Corporation is not making any representations relating to the establishment and maintenance of:

- a) controls and other procedures designed to provide reasonable assurance that information required to be disclosed by the issuer in its annual filings, interim filings or other reports filed or submitted under securities legislation is recorded, processed, summarized and reported within the time periods specified in securities legislation; and
- b) a process to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes.

Accordingly, inherent limitations on the ability of the Corporation's management to design and implement on a cost effective basis DC&P and ICFR for the Corporation may result in additional risks to the quality, reliability, transparency and timeliness of interim and annual filings and other reports provided under securities legislation.

During the year ended October 31, 2020, the Company amended its accounting policy with respect to its unit offerings. The Company amended its accounting policy with respect to the measurement of shares and warrants issued as equity units from the relative fair value method to the residual value method. Under the residual value method, proceeds are allocated first to share capital up to the fair value of the common share, determined by reference to the quoted market price of the common shares on the unit pricing date, with the residual amount of proceeds, if any, allocated to the reserve for warrants.

The amounts have been retrospectively recasted with \$383,646 recasted from warrants reserve to share capital as at October 31, 2018, and \$109,502 recasted from warrants reserve to share capital as at October 31, 2019. As the amounts are an adjustment within shareholders' equity, the recasting had no effect on the consolidated financial position, operating results or cash flows previously reported.

### **FURTHER INFORMATION**

Further information can be obtained from VanadiumCorp's website at www.vanadiumcorp.com or at www.sedar.com.