

## **CANADIAN MANGANESE COMPANY INC.**

### **MANAGEMENT DISCUSSION AND ANALYSIS**

For the year ended December 31, 2021

Dated: March 29, 2022

(Form 51-102F1)

Dated: March 29, 2022

### **GENERAL**

This Management's Discussion and Analysis ("MD&A") should be read in conjunction with the audited consolidated financial statements and notes thereto of Canadian Manganese Company Inc. (collectively, with its subsidiaries, "Canadian Manganese" or the "Company") for the year ended December 31, 2021, which are available under the Company's profile on SEDAR at <a href="www.sedar.com">www.sedar.com</a>.

At December 31, 2021, and the date of this MD&A, the Company's subsidiaries include Technology Metals Inc. (formerly Maximos Metals Corp.) (owned 100% by Canadian Manganese), Mongoose Mining Ltd. ("Mongoose") (owned 40.7% by Technology Metals Inc.) and Spark Minerals Inc. (owned 100% by Mongoose). Notwithstanding the Company holds less than a majority interest in Mongoose, the Company has determined it controls Mongoose, due to its dominant equity interest and Board representation relative to any other shareholder or group of shareholders.

All currency amounts in this MD&A are expressed in Canadian dollars, unless otherwise indicated.

This MD&A contains forward-looking statements.

### **COMPANY OVERVIEW**

The Company was incorporated under the Canada Business Corporations Act on June 13, 2011 and is focused on the environmentally responsible development of its wholly-owned manganese project in New Brunswick, Canada (the "Woodstock Project"), with a goal of becoming the primary North American supplier of high purity manganese sulphate monohydrate ("HPMSM"), a critical component of rechargeable lithium-ion batteries ("LIBs") used in electric vehicles ("EVs").

Substantially all of the Company's efforts are devoted to advancing the development of the Woodstock Project and continuing to demonstrate the numerous strategic benefits it can provide to the future of HPMSM production and global supply.

The Company reported an updated mineral resource estimate in December 2021 of 43,070,000 tonnes grading 10.01% manganese (utilizing a cut-off grade of 5% Mn) in the Inferred category. The Woodstock Project is believed to be the largest manganese carbonate (rhodochrosite) resource in North America and one of the largest in the world outside China. The updated Technical Report highlights the size, grade, and growth potential of the carbonate hosted Woodstock Project.

Subsequent to year end, the Company's shares were listed on the NEO Exchange (under symbol CDMN) and commenced trading on January 31, 2022.

Manganese has been defined by the Canadian and U.S. governments as a strategic metal essential for national defense, aerospace, technology and energy that is highly susceptible to supply interruptions due to the lack of domestic production and concentration of the current global production. The U.S. has included manganese on its list of 35 critical minerals.

There is currently no primary manganese mine production in the U.S. or Canada, with the majority of HPMSM production based in China, representing approximately 90% of the global supply. The Company's goal is to address the jurisdictional supply imbalance and current environmentally harmful and energy inefficient production landscape of HPMSM by providing a new generation of HPMSM consumers with an alternative carbon conscious North America-based supply.

### **HPMSM MARKET POSITIONING**

Manganese, as HPMSM, is a key component in the formulations of cathode material used in LIBs, and in bulk energy storage facilities, which are expected to create strong demand for high-purity manganese products. The importance of high purity manganese applications in these emerging battery metals markets has increased industry efforts to define and develop opportunities for production of HPMSM.

Analysis of world supply and demand trends for battery metals carried out for the Company highlights the dramatic increase in annual demand for LIBs (measured in power capacity), forecast to increase from a capacity of ~280 GWh in 2020 to over 2,130 GWh by 2030, representing a ~22% annual growth rate. This identified market growth has spurred efforts focused on increasing the energy density of LIBs to improve performance (e.g. improved EV range) and/or costs (e.g. reduction in the number of cells required in LIBs). As a result, due to their cost effectiveness, scalability, safety and range, the nickel-manganese-cobalt cathode ("NMC") has emerged as the most widely adopted within the EV industry – demonstrated by the large OEMs choosing it for almost all new EV model offerings.

The most common cathode chemistry is currently the NMC with a contained metal ratio of 5:3:2 (shown in respective proportion of nickel, manganese and cobalt) and rapidly evolving towards 6:2:2; 7:2:1 and 8:1:1 ratios. Although the battery is rapidly changing, the market consensus is that any new breakthrough battery or cathode chemistry requires approximately 10 years to evolve and to be produced economically. Given this, management believes the current chemistries are at minimal risk of being significantly displaced during this time period.

Global HPMSM supply is an opaque market dominated by China-based producers, representing approximately 90% of the market. Production methods employed for a significant percentage of current and forecast production require purification processes that involve an energy intensive calcination step (oxide ores) or inclusion of the environmentally harmful selenium. The global growth in ESG compliance poses a significant risk on this supply, as investors and purchasers are increasingly incentivised to stop supporting businesses and industries that resist or have a fundamental inability to implement strong ESG practices and governance. The Company's carbonate hosted deposit provides the ability to produce a high-quality HPMSM product without utilising these harmful steps prevalent in the current global production.

The continued demand for advancements in energy storage and distribution technologies, highlighted by the global adoption of electric vehicles, combined with supply dominance issues, environmentally harmful processes, and the mounting geopolitical support to change these types of antiquated industry dynamics underpins why the Company believes it is critical to create a North American based leader in the responsible production of HPMSM.

### **2021 DEVELOPMENTS**

In early 2021, the Company engaged Mercator Geological Services Limited to update its 2014 technical report on the Woodstock Project in an updated National Instrument 43-101 Technical Report, including preparation of a revised resource estimate, assuming the production of HPMSM and updated economic assumptions.

On April 30, 2021, the Company completed its acquisition of Maximos and a concurrent \$6.2 million equity financing, as described in further detail below under "Acquisition of Maximos Metals".

On May 5, 2021, the Company appointed Matthew Allas as President and Chief Executive Officer. Previously, Mr. Allas had been President and Chief Executive Officer of Maximos since 2018.

Throughout 2021, following the completion of the reassessment of strategic focus from the production of Electrolytic Manganese Metals ("EMM") to HPMSM, including current pricing analysis and preliminary operating cost estimates, the Company worked with its consultants on the preparation of the updated Technical Report, and expanded its engagement efforts with stakeholders of the Woodstock Project, including the Government of New Brunswick and local First Nations communities.

In December 2021 the Company filed its updated Technical Report prepared in accordance with National Instrument 43-101, reporting an updated Mineral Resource Estimate for the Plymouth manganese-iron deposit. The new Mineral Resource estimate, which was prepared in accordance with the CIM Definition Standards for Mineral Resources and Reserves as amended in 2014 (CIM Standards 2014), now stands at 43,070,000 tonnes grading 10.01% manganese (utilizing a cut-off grade of 5% Mn) in the Inferred category.

The updated Technical Report noted that well defined opportunities to expand the current mineral resources exist in the immediate strike and dip extension areas of the mineralized zones that comprise the currently defined deposit and the nearby, historically explored Hartford Mn-Fe deposit has good potential for definition of new mineral resources.

In November 2021 the Company commenced a 5,000 metre diamond drilling program on the Woodstock Project, following the Phase I recommendations of the Technical Report, which was substantially advanced during the first quarter of 2022.

Subsequent to year end, the common shares of the Company were listed for trading on the NEO Exchange under symbol CDMN.

#### **WOODSTOCK PROJECT**

The Woodstock Project is within Carleton County, approximately five kilometres west of the town of Woodstock, in west-central New Brunswick. The property is ideally situated with access to all necessary infrastructure and located near the junction of the Trans Canada and U.S. Interstate I-95 highways, and approximately nine kilometres from the border with the State of Maine. Access to the property is available by New Brunswick Provincial Government maintained paved roads extending from the main Trans-Canada Highway network.

The Woodstock Project comprises mineral claims covering 58 km² and encompasses the Plymouth Manganese-Iron deposit ("Plymouth Deposit"). Manganese at the Plymouth Deposit predominately occurs as a manganese carbonate. Manganese carbonates are preferred, relative to higher-grade manganese oxide feed materials, for production of high-purity manganese metals. The Woodstock Project is believed to be the largest manganese carbonate (rhodochrosite) resource in North America and one of the largest in the world outside China.

In addition, the Woodstock Property hosts several undeveloped deposits including the North Hartford and South Hartford deposits located less than two (2) kilometres on strike to the north of the Plymouth Deposit. Historical uncategorized resource estimates for the Hartford deposits include \*45 million tonnes grading 8% Mn and 12% Fe in the North Hartford deposit and an additional \*45 million tonnes grading 8% Mn and 12% Fe in the South Hartford deposit (Strategic Manganese Corporation; Sidwell, 1957).

\*Historical Estimates: Readers are cautioned that the estimates for the Hartford deposits are historic and based on data obtained and prepared by previous operators and neither the Company nor its predecessors have located original assay sheets or details of the estimation methodology, nor the key assumptions or parameters, underlying the estimates. A qualified person has not done sufficient work to verify or classify the historical estimates as current mineral resources. The Company is not treating the historical estimates as current mineral resources, and these estimates should not be relied upon.

The Company maintains the Woodstock Project as mineral claims issued by the New Brunswick Department of Energy and Resource Development. The claims are held 100% by the Company as Claim Block 5472 comprised of 232 mineral claims maintained in good standing through payment of annual renewal fees and filing of assessment work credits derived from work undertaken by the Company and its predecessor companies. The Company currently retains surplus excess work credits sufficient to maintain the property for several years.

The Company owns the surface rights for a limited portion of the property (52.6 ha, 0.526 km²), essentially covering the north half of the Plymouth deposit. That portion of the property is subject to a 1% gross sales royalty retained by the vendors and the Company retains buyback rights for half of this royalty.

### Summary of Technical Report

Mercator Geological Services Limited prepared the report dated effective November 10, 2021 and entitled "NI 43-101 Technical Report For The Woodstock Project (Plymouth Manganese-Iron Deposit) Woodstock Area New Brunswick, Canada" (the "Technical Report"). Each of Paul Ténière, Matthew Harrington, Dean Thibault and Lawrence Elgert is a qualified person under National Instrument 43-101 (each a "Qualified Person"), and is independent of the Company.

The following summary of the Technical Report has been extracted from the Technical Report. To obtain further particulars regarding the Woodstock Project, readers should consult the Technical Report which has been filed with the applicable Canadian securities regulatory authorities and is incorporated herein by reference. The Technical Report is available under the Company's SEDAR profile at <a href="https://www.sedar.com">www.sedar.com</a>.

Readers are cautioned that the summary of technical information in this MD&A should be read in the context of the qualifying statements, procedures and accompanying discussion within the complete Technical Report and the summary provided herein is qualified in its entirety by the Technical Report. Capitalized and abbreviated terms appearing in the following summary and not otherwise defined herein shall have the meaning ascribed to such terms in the Technical Report.

#### Mineral Resource Estimate

The mineral resource estimate described in the report is presented in Table 1.1 and is based on validated results of the 2011 and 2013 drilling programs carried out by the Company, plus validated results of five drillholes and two trenches completed by MRR in 1987. The mineralized zone was modeled as a folded, stratiform manganese-iron deposit occurring within a northeast striking, steeply dipping host sequence of red and grey siliciclastic sedimentary rocks using GEOVIA (formerly Gemcom) Surpac™ (Surpac™) version 6.4.1 deposit modeling software.

Drilling-defined mineralization within the resource estimate block model occurs along a 700 m strike length and reaches a maximum width of approximately 200 m in the central deposit area.

Table 1.1: Plymouth Manganese-Iron Deposit Resource Estimate – Effective November 10, 2021

Туре	Mn % Cut-off	Category	Rounded Tonnes	Mn %	Fe %
Pit Constrained	5.00	Inferred	43,070,000	10.01	14.32

#### Notes:

- 1) Mineral resources were prepared in accordance with the CIM Standards (2014) and CIM MRMR Best Practice Guidelines (2019).
- 2) Mineral resources are defined within an optimized conceptual pit shell with average pit slope angles of 45° in bedrock, 20° in overburden, and a 1.7:1 strip ratio (waste: mineralized material).
- 3) Pit optimization parameters include: pricing of US\$1,500 /tonne for High Purity Manganese Sulphate Monohydrate-32% Mn (HPMSM 32 % Mn), US\$ 935/tonne for Manganese Sulphate Monohydrate 32% Mn (MSM–32%Mn), exchange rate of CDN\$1.30 to US\$ 1.00, mining at CDN \$6.50/t, combined processing, and G&A (1,000 tpd) at CDN \$193.22/t processed and a process recovery of manganese to MSM and HPMSM of 85%. Iron was not considered in the pit optimization but has potential for future commercial value.
- 4) Mineral resources are reported at a cut-off grade of 5 % manganese within the optimized conceptual pit shell. This cut-off grade reflects total operating costs used in pit optimization and is used to define "reasonable prospects for eventual economic extraction" by open pit mining methods.
- 5) Mineral resources were estimated using Inverse Distance Squared methods applied to 3 m downhole assay composites. No grade capping was applied. Model block size is 10 m (x) by 10 m (y) by 10 m (z).
- 6) Bulk density was estimated using Inverse Distance Squared methods applied to core specific gravity determinations.
- Mineral resources may be materially affected by environmental, permitting, legal, title, taxation, sociopolitical, marketing, or other relevant issues
- 8) Mineral resources are not mineral reserves and do not have demonstrated economic viability.
- 9) Mineral resource tonnages are rounded to the nearest 10,000.

Table 1.2: Plymouth Manganese-Iron Deposit Cut-off Grade Sensitivity Analysis Within Resources

Туре	Mn % Cut-off	Category	Rounded Tonnes	Mn %	Fe %
Pit Constrained	5.00	Inferred	43,070,000	10.01	14.32
Pit Constrained	6.00	Inferred	41,120,000	10.22	14.57
Pit Constrained	7.00	Inferred	37,950,000	10.53	14.92
Pit Constrained	8.00	Inferred	33,560,000	10.93	15.36
Pit Constrained	9.00	Inferred	28,640,000	11.34	15.83
Pit Constrained	10.00	Inferred	22,330,000	11.86	16.42

Note: This table shows sensitivity of the November 10, 2021, mineral resource estimate to cut-off grade. The base case at a cut-off value of 5.00% manganese is bolded for reference.

To meet the requirement of reasonable prospects for eventual economic extraction, an optimized pit shell was generated to constrain definition of mineral resources. AGP Mining Consultants Inc. ("AGP") provided pit optimization services that defined a cut-off value of 5% manganese for definition of mineral resources within the pit shell. This reflects conceptual production of 50% MSM and 50% HPMSM at a manganese total recovery factor of 85% and long-term prices of \$1,500/tonne and \$935/tonne for HPMSM and MSM, respectively. Additional optimization parameters are presented in the notes that accompany Table 1.1. Iron content was not considered in the pit optimization but has potential future value that requires assessment through further metallurgical studies. The current mineral resource estimate reflects reasonable prospects for eventual economic extraction using conventional open pit mining methods. Table 1.2 presents a cut-off grade sensitivity analysis for within-pit mineral resources.

Classification of mineral resources in the Inferred Mineral Resource category reflects broad spacing of supporting drill holes. It is reasonable to assume that infill drilling between existing holes will support future definition of Indicated and Measured category mineral resources. Mineral resources were prepared in accordance with the CIM Standards (2014) and CIM MRMR Best Practice Guidelines (2019).

### Mineral Processing and Metallurgical Testing

Since 2011, several phases of process development test programs have been completed. Bench scale metallurgical and hydrometallurgical test programs were conducted by Thibault from 2011 to 2015 using core samples obtained from the 2011 drilling of the Plymouth Deposit. The bench scale testing and process development program was based on the development of process technology to produce high purity EMM ("HPEMM"). Blending of the core samples was defined by the Company to represent typical processing feedstocks relative to run-of-mine mineralization characteristics.

Preliminary testing and an assessment of alternative technologies relative to the characterization of the core samples indicated that direct sulphuric acid leaching of the feedstock and subsequent solution purification unit operations can produce a high purity manganese sulphate to produce high purity manganese chemicals and metal.

Based on an assessment of HPMSM production technologies, process optimization to improve on Plymouth Deposit MSM purity and yield can be achieved by defining the optimum operating parameters such as crystallization temperature, manganese sulfate concentration, solution acidity and the use of proprietary reagents to improve on calcium and magnesium removal. Additional research and laboratory studies are recommended to optimize processing approaches for production of MSM and HPMSM from Plymouth Deposit mineralization.

### **Interpretations and Conclusions**

Manganese has been used primarily as an additive in steel products, with a proportionately small amount going to electronic equipment, battery manufacture and chemical processing applications. Approximately 89% of the current EMM production is marketed as alloyed manganese and foundry products such as ferromanganese (high, medium, and low carbon types) and silicomanganese. The remainder is produced as high-purity metallurgical and chemical manganese products and as manganese chemicals.

Since 2014, the importance of high purity manganese applications in the emerging battery metals market has increasingly driven industry efforts to define and develop opportunities for production of high-quality manganese products such as EMM, HPEMM and HPMSM. Based on analysis of world supply and demand trends for battery metals carried out for the Company, the market analysis and forecasting firm Benchmark Mineral Intelligence (Benchmark) concluded that opportunities for new producers of HPMSM in particular will begin to appear as early as 2021 and continue to rise gradually through 2040.

Subsequent to the 2014 PEA, the Company has shifted its focus from EMM to MSM and HPMSM products to better address the significant forecast growth in battery market opportunities. This prompted the Company to update the Plymouth Deposit mineral resource estimate to reflect preliminary estimates of MSM and HPMSM processing costs developed by Thibault in June 2021. The report authors applied these costs in the 2021 pit optimization process carried out by AGP to define mineral resources having reasonable prospects for eventual economic extraction using conventional open pit mining methods.

Preliminary operating cost estimates developed by Thibault for combined (50%:50%) production of MSM and HPMSM reflect an estimated manganese recovery of 85%. Production of EMM is not included in the updated processing flow sheet, which is a different approach from the 2014 PEA that specifically addressed EMM. Conservative processing cost estimates that apply for combined MSM and HPMSM production are in part offset significantly by corresponding higher metal prices of the HPMSM market. The revised processing model resulted in a mineral resource estimate cut-off grade of 5.0% manganese. This is higher than the 3.5% manganese cut-off grade defined in the 2014 PEA and produces a slight reduction in mineral resource tonnage and increase in average grade in comparison with the 2014 estimate. Observed grade and tonnage variations between the current resource estimate and 2014 estimate reflect combined influence of very sharp natural grade boundaries and the maximum solid-model spatial extents of the deposit, which were developed using a 5% manganese over 12m minimum qualifying parameter for drill hole intercepts.

All 2021 mineral resources have been assigned to the Inferred Mineral Resource category. This is a result of the spacing of drill holes used to define the current deposit model, which is in the order of 100m or more. It is anticipated that future infill drilling at 50m or less hole separation would support the definition of mineral resources into the Indicated and Measured resource categories. Such resource categorization will be required to support future evaluation of the Woodstock Project through a Pre-feasibility study (PFS) or a Feasibility study (FS).

Processing cost assessments for MSM and HPMSM were applied in the 2021 pit optimization and Thibault has identified the need for refinement of MSM and HPMSM processing details and associated cost projections through completion of further metallurgical studies.

Completion of infill drilling to upgrade mineral resource categorization to levels necessary for PFS or FS programs is required to move the Woodstock Project forward, in combination with completion of new metallurgical studies focused specifically on optimization of MSM and HPMSM production.

Well-defined opportunities to expand current mineral resources exist in the immediate strike and dip extension areas of the mineralized zones that comprise the currently defined deposit. These are highest in resource expansion priority. The historically explored Hartford manganese-iron occurrence that is located on the Company holding a short distance from the main deposit has not been drilled by the Company to date but has good potential for definition of mineral resources. Systematic core drilling in this area will be required to define mineral resources.

#### **Recommendations**

The following recommendations with respect to further evaluation of the Plymouth Deposit are based on work completed to date. The premise underlying the recommendations is that the Woodstock Project should proceed in a timely manner to the point at which all information necessary to support and complete a PFS is in place. Expenditure estimates for completion of the recommended Phase I and II work programs are discussed below.

- Infill drilling at a 50m section spacing should be carried out to upgrade Inferred Mineral Resources to the
  Indicated and Measured mineral resource categories. Timely delineation of a sufficient quantity of such
  mineral resources to support a PFS study would be the focus of this work program. At least 5,000m of infill
  drilling will be required to upgrade Plymouth Deposit mineral resources from Inferred to Indicated and
  Measured categories.
- A geotechnical assessment of the deposit area should be undertaken to establish data required for future open pit design programs. This will require dedicated core drilling support plus assessment of existing archived drill core. An initial core drilling allocation of 1,000m is recommended.
- Baseline environmental permitting and community consultation studies should be initiated to expedite transition to the PFS stage of evaluation.
- Initial drilling assessment of the North and South Hartford prospects should be undertaken to determine their potential to provide future mineral resources. An initial core drilling program of 1,000m is recommended.

### WOODSTOCK PROJECT DEVELOPMENT STRATEGY

The Company has undertaken several programs to evaluate the Plymouth Deposit as a potential open pit mining operation for production of high-purity manganese metal products. In doing so, the Company completed a preliminary economic assessment of the deposit in 2014, supported by, among other things, a comprehensive program of bench-scale metallurgical test work as documented in the PEA Technical Report dated July 10, 2014.

Since 2011, several phases of process development test programs have been completed. Bench scale metallurgical and hydrometallurgical test programs were conducted from 2011 to 2015 using core samples obtained from the 2011 drilling of the Plymouth Deposit.

The primary value enhancement initiatives undertaken in 2021 have focused on two objectives:

- 1) fundamental asset analysis and study, in preparation for near-term detailed feasibility work; and
- 2) direct and prospective stakeholder and regulatory engagement

As announced on December 7, 2021 the Company commenced a comprehensive infill drilling program to further define and increase the confidence level of the mineral resource within the Plymouth Deposit (currently open in several directions). In February 2022, based on positive observations this program was expanded to include additional holes at the Plymouth Deposit. As well, an initial exploration program specifically to test the historical geological assumptions made and potential regarding the adjacent North and South Hartford properties was approved and will be initiated in 2022. The completion of all drilling activities at the Plymouth Deposit is expected in April 2022, with detailed testing and analysis work to continue throughout Q2 2022.

As part of this groundwork undertaking, the Company has been in active communication with both local and provincial stakeholders. The focus on proactive and inclusive engagement has provided management with active and direct communication, which has demonstrated efficiencies to the current work program and opportunities for further near-term collaboration initiatives.

In addition to the completion of the drilling program, the following initiatives will proceed in 2022:

- Metallurgical consultant engagement and initial processing method analysis
- Updated 43-101 resource report
- Environmental consultant engagement and initiation of baseline study work
- Engagement of specialty consultant to undertake feasibility study
- Additional exploration activities outside of the Plymouth Deposit

### **QUALIFIED PERSONS**

Paul Moore, P.Geo., is the Company's designated non-Independent Qualified Person and has reviewed and approved the technical and scientific contents relating to the Woodstock Property in this MD&A.

The independent authors of the Technical Report are Paul Ténière, M.Sc., P. Geo, Matthew Harrington P. Geo., Dean Thibault P. Eng. and Lawrence Elgert P. Eng.

### **ACQUISITION OF MAXIMOS METALS**

On April 30, 2021, the Company completed the acquisition of Maximos by way of a three-cornered amalgamation between Maximos and a wholly owned subsidiary of the Company. The amalgamated subsidiary is legally named "Technology Metals Inc.", however this MD&A refers to the entity by its more familiar pre-amalgamation name, "Maximos". The transaction resulted in Maximos becoming a wholly owned subsidiary of Canadian Manganese, and the former shareholders of Maximos becoming shareholders of the Company.

On the acquisition date, Maximos held a portfolio of mineral assets and passive interests, primarily located in Atlantic Canada, a licence for the use of the proprietary Nanospectra technology and cash. Additionally, Maximos held an investment in Spark Minerals Inc. ("Spark"), a private company focused on the advanced exploration of previously identified IOCG (iron-oxide-copper-gold) mineralized breccias, located in Nova Scotia.

In addition to the assets outlined, the acquisition of Maximos brought significant new stakeholders to Canadian Manganese. Along with strong institutional support, key Maximos shareholders are longstanding and significant members of the Atlantic Canada community, with multi-generational business, political and charitable interests spanning across all the Atlantic provinces, and these new stakeholders provide the Company with a strong base of support for the Woodstock Property in New Brunswick.

To complete the acquisition of Maximos, a total of 59,683,564 common shares of the Company were issued to holders of Maximos shares on the basis of 0.55562527 of a Canadian Manganese share for each Maximos share. In addition, a total of 5,278,440 Canadian Manganese stock options were issued in replacement of outstanding Maximos options, with each Canadian Manganese option being exercisable at a price of \$0.18 per share on or before June 30, 2025, and a total of 4,445,002 Canadian Manganese share purchase warrants were issued in replacement of Maximos warrants, with each Canadian Manganese warrant being exercisable at a price of \$0.18 per share on or before March 17, 2024.

In conjunction with the Company's acquisition of Maximos, the Company completed an equity financing on April 29, 2021 on a non-brokered private placement basis of 17,544,447 common shares issued at \$0.225/share and 6,666,666 flow-through common shares issued at \$0.30 per share for aggregate gross proceeds of \$5,947,500. On June 21, 2021, the Company completed a further tranche of the financing, whereby it issued 1,136,339 common shares at a price of \$0.225 per share, for additional gross proceeds of \$255,676 (collectively, the "Financing").

### **Maximos' Mineral Property Interests**

The primary assets included in the Maximos acquisition provide the Company with potential exposure to several diverse key technology metals - Nickel, Copper and Cobalt, directly through holding over 50,000 hectares of mineral claims in Labrador in identified prospective sulphide nickel environments.

The Maximos Nickel Property consists of nine discontinuous mineral Licenses (024907M to 024915M) covering a total area of 336 km² in northwestern Labrador on which Maximos completed a diamond drilling program in late 2017 and early 2018. This maiden exploration drill campaign at the Labrador property consisted of 2 holes (~745m) and was designed to test for massive sulphides within a Voisey's Bay type environment on targets identified based on the proprietary Nanospectra interpretations with no traditional geophysical work programs previously completed or analysis available. Both drill holes intersected a type of olivine gabbro-troctolitic rock, containing trace sulphides.

Subsequent to this successful proof of concept drill program, Maximos engaged in an expansive Voisey's Bay style asset identification program using Nanospectra. This facilitated the staking of approximately 57,300 hectares of specifically identified mineral claims hosting multiple targets.

### Nanospectra Technology Licence

As part of the Maximos transaction the Company acquired, indirectly, the rights to an amended and restated technology know-how licence agreement, originally entered into by Maximos, for the exclusive use of the proprietary Nanospectra technology for mineral(s) identification and exploration for manganese, nickel, cobalt and other technology metals worldwide. Prior to entering into this agreement, certain Maximos founders were party to and initiated multiple proof of concept test programs with different mineral types (e.g., base and precious metals), across various stages (e.g., producing, development and exploration), and geological environments and jurisdictions. From these tests the following observations were made from the Nanospectra data:

- Identification of a focused elemental signature
- Identified signature significantly correlated to data obtained from traditional geological evaluation techniques (potentially reducing/eliminating "false positives" provided by some traditional methods)
- Improvement in time and cost of identification and prioritization of higher probability drill zones (significantly reducing the area of initial study and increase focus of accurate confirmatory geophysical tools)

### Spark Minerals Inc. / Mongoose Mining Ltd.

Through the acquisition of Maximos, the Company acquired an indirect 53.1% investment in Spark, a private company focused on the advanced exploration of previously identified IOCG (iron-oxide-copper-gold) mineralized breccias, located in Nova Scotia.

Previous work carried out in 2007 by Minotaur Exploration ("Minotaur") confirmed the IOCG potential, and with its partner Dundee Precious Metals, spent approximately \$6 million developing a geophysical database identifying and developing numerous high priority target areas. Minotaur spent an additional \$2 million drilling 3 holes regarded as technical successes but discontinued the program due to the impacts of the 2008 financial crisis. Recent drill programs have also identified the existence of Cobalt (~480-776ppm).

On March 17, 2021, prior to being indirectly acquired by the Company, Spark entered into a share exchange agreement with Mongoose Mining Ltd. ("Mongoose") which set out the intent of the parties for Spark to complete a reverse takeover ("RTO") of Mongoose.

Upon completion of the RTO on November 10, 2021, the Company's 53.1% indirect equity interest in Spark was exchanged for 13,006,993 common shares of Mongoose, representing a 40.7% indirect equity interest in Mongoose, which owns 100% of Spark. Mongoose is listed on the Canadian Securities Exchange under the trading symbol MNG.

Notwithstanding the Company holds less than a majority interest in Mongoose, the Company has determined that it controls Mongoose, due to its dominant equity interest and level of Board representation relative to any other shareholders or group of shareholders.

Accordingly, the consolidated financial statements of the Company for the year ended December 31, 2021 consolidate the accounts of Maximos and Spark commencing April 30, 2021, and the accounts of Mongoose (including Spark) commencing November 10, 2021.

### **EXPLORATION AND EVALUATION ASSETS**

	Woodstock	dstock Mongo		
	manganese	Maximos nickel	Cobequid IOCG	
	property	property	property	Total
	\$	\$	\$	\$
Balance, December 31, 2019	4,653,700	-	-	4,653,700
Additions:				
Project management	8,621	-	-	8,621
Balance, December 31, 2020	4,662,321	-	-	4,662,321
Additions:				
Property acquisitions	-	1	5,952,768	5,952,769
Drilling	193,585	-	120,910	314,494
Geological	137,315	-	78,989	216,304
Technical consulting	10,800	-	-	10,800
Consultations	77,550	-	-	77,550
Economic studies	133,926	-	-	133,926
Supplies	13,280	-	1,245	14,526
Claims registration	6,160	-	-	6,160
Project management	2,003			2,003
	574,619	1	6,153,912	6,728,532
Balance, December 31, 2021	5,236,940	1	6,153,912	11,390,853

The Company holds a 100% interest in the Woodstock Property located northwest of the town of Woodstock, in west-central New Brunswick. A portion of the property is subject to a 1% gross sales royalty upon commencement of commercial production, with the Company retaining certain rights to buy back one half of the royalty. Substantially all of the Company's efforts are devoted to advancing the development of the Woodstock Property.

In connection with the Maximos Acquisition, the Company acquired interests in certain exploration and evaluation assets held by Maximos. These acquired exploration and evaluation assets consist primarily of nickel-copper-cobalt exploration properties located in northwestern Labrador. The Maximos exploration and evaluation assets have been recorded at a nominal value as the Company has no immediate plans for the ongoing exploration and evaluation of these assets.

In connection with the Maximos Acquisition, the Company also indirectly acquired the Cobequid Highlands property held by Spark (subsequently held by Mongoose, following the Mongoose RTO), consisting of mineral exploration licences in Nova Scotia with potential for iron oxide-copper-gold ("IOCG") mineralization.

### **RESULTS OF OPERATIONS**

The consolidated financial statements of the Company for the year ended December 31, 2021 consolidate the accounts of Maximos and Spark commencing April 30, 2021 and the accounts of Mongoose (including Spark) commencing November 10, 2021.

The Company recorded no revenue in the years ended December 31, 2021 and 2020.

For the year ended December 31, 2021, the Company recorded a loss of (\$14,271,924) compared to a loss of (\$125,998) for the same period in 2020. The loss in the current year included a loss recognized in connection with the Maximos Acquisition of (\$12,101,069), share based compensation of (\$631,558), a Mongoose RTO listing cost of (\$811,149), and \$162,512 in other income from the reversal of flow-through premium.

For the three months ended December 31, 2021, the Company recorded a loss of (\$1,056,217), compared to a loss of (\$97,577) for the same period in 2020. The loss in the current three-month period included share-based compensation of (\$132,994), a Mongoose RTO listing cost of (\$811,149), and \$102,916 in other income from the reversal of flow-through premium.

### **SELECTED ANNUAL INFORMATION**

The following selected annual information has been derived from the consolidated financial statements of the Company, which have been prepared in accordance with International Financial Reporting Standards.

Expressed in Canadian dollars	Year ended	Year ended	Year ended	
Except for per share amounts	Dec. 31, 2021	Dec. 31, 2020	Dec. 31, 2019	
	\$	\$	\$	
Loss before taxation and other items	(1,522,218)	(133,998)	(117,301)	
Net loss for the period	(14,271,924)	(125,998)	(117,301)	
Net loss per common share	(0.117)	(0.002)	(0.01)	
Total assets	17,595,016	4,725,807	4,654,319	
Cash and cash equivalents	6,002,675	62,198	472	
Shareholders' equity	11,961,438	4,403,828	4,529,826	

### **SUMMARY OF QUARTERLY RESULTS**

Expressed in \$000's,	Dec. 31	Sept 30	June 30	March 31	Dec. 31	Sept 30	June 30	March 31
Except for per share	2021	2021	2021	2021	2020	2020	2020	2020
amounts	\$	\$	\$	\$	\$	\$	\$	\$
Net (loss) income	(1,056)	(444)	(12,723)	(48)	(98)	(18)	1	(11)
Net (loss) income per share								
- basic and diluted	(0.010)	(0.003)	(0.109)	(0.001)	(0.002)	(0.000)	0.000	(0.000)
Total assets	17,595	17,141	17,248	4,702	4,726	4,746	4,752	4,753
Working capital/	4,824	10,440	10,781	(308)	(258)	(59)	(40)	(38)
(Deficiency)								

The loss of (\$12,723,303) in the quarter ended June 30, 2021 included a loss recognized in connection with the Maximos Acquisition of (\$12,284,235) and share based compensation of (\$303,750). The loss of (\$444,341) in the quarter ended September 30, 2021 included share based compensation of (\$194,813). The loss of (\$1,056,217) in the quarter ended December 31, 2021 included share-based compensation of (\$132,994), a Mongoose RTO listing cost of (\$811,149), and \$102,916 of other income from the reversal of flow-through premium.

### LIQUIDITY AND CAPITAL RESOURCES

Current assets at December 31, 2021 were \$6,204,163, compared to \$63,486 at December 31, 2020. Current liabilities were \$1,380,170 at December 31, 2021, including accounts payable and accrued liabilities of \$839,747 and a flow-through share premium liability of \$540,423, compared to current liabilities of \$321,979 at December 31, 2020.

During the year ended December 31, 2021, the Company completed a non-brokered equity private placement of common shares and flow-through common shares raising a total of \$6,203,176 (collectively, the "Financing"). In the first closing of the Financing on April 29, 2021, immediately before completing the Maximos Acquisition, the Company issued 17,544,447 common shares at a price of \$0.225 per share for gross proceeds of \$3,947,500 and 6,666,666 flow-through shares at a price of \$0.30 per flow-through share for gross proceeds of \$2,000,000. In the second closing of the Financing on June 21, 2021, the Company issued an additional 1,136,339 common shares at a price of \$0.225 per share for gross proceeds of \$255,676.

On November 10, 2021, Spark and Mongoose closed their previously announced reverse takeover transaction. Pursuant to the transaction, the Company's indirect 53.1% equity interest in Spark was exchanged for 13,006,993 common shares of Mongoose, representing a 40.7% equity interest in Mongoose. Mongoose is listed on the Canadian Securities Exchange under the trading symbol MNG.

At December 31, 2021, the Company held exploration and evaluation assets with a carrying value of \$11,390,853, including \$5,236,940 on the Woodstock Project, and Mongoose's Cobequid property in Nova Scotia with a carrying value of \$6,153,912 (before a 59.3% non-controlling interest). The balance sheet values for these assets may not represent that which could be obtained if the assets were to be offered for sale.

### **RELATED PARTY TRANSACTIONS**

Transactions between the Company and its subsidiaries have been eliminated on consolidation and are not disclosed.

During the period ended December 31, 2021, the Company paid or accrued \$117,333 to related parties, including a \$60,000 management fee (2020 - \$60,000) to Energold Minerals Limited ("Energold"), a company controlled by John F. Kearney, a director; a \$33,333 management fee (2020 - \$Nil) to 2348035 Ontario Corp., a company controlled by W. Matthew Allas, an officer and director; and \$24,000 in rent (2020 - \$24,000) to Buchans Resources Limited ("Buchans"), a company in which directors John F. Kearney and Danesh Varma serve as directors and officers.

During the year ended December 31, 2020, the Company received an advance in the amount of \$100,000 from John F. Kearney, a director, to fund working capital expenses. The advance was settled in full in April 2021 as part of the Financing.

Included in accounts payable and accrued liabilities at December 31, 2021 are \$Nil payable to Buchans (2020 - \$140,203) for administrative services; \$4,708 payable to 2348035 Ontario Corp. (2020 - \$Nil) for management services, and \$5,650 payable to Energold (2020 - \$60,000) for administrative and management services. These amounts are unsecured, non-interest bearing and due on demand.

### **CRITICAL ACCOUNTING ESTIMATES**

The Company's financial statements are prepared in accordance with IFRS and require management to make estimates and assumptions about future events that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities, if any, at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. Such estimates and assumptions affect the carrying value of assets, impact decisions as to when exploration and development costs should be capitalized or expensed and affect estimates for asset retirement obligations and reclamation costs. Other significant estimates made by the Company include factors affecting valuation of tax accounts. The Company regularly reviews its estimates and assumptions, however actual results could differ from these estimates and these differences could be material.

### ADOPTION OF NEW ACCOUNTING STANDARDS

The standards and interpretations within IFRS are subject to change. For further details, please refer to Note 3 of the Company's consolidated financial statements for the year ended December 31, 2021.

### PRINCIPAL RISKS AND UNCERTAINTIES

The realization of mineral exploration assets is dependent on the development of economic ore reserves and is subject to a number of significant potential risks, as summarized below and under the heading "RISK FACTORS" in the Company's annual information form for the year ended December 31, 2021.

### Failure to Obtain Additional Financing

Other than the Financing, which closed in two tranches effective April 29, 2021 and June 21, 2021, there can be no assurance that the Company will be successful in obtaining any additional required funding necessary to conduct additional exploration or evaluation, if warranted, on the Company's current exploration properties, or any properties that may be acquired, or to develop mineral resources on such properties, if commercially mineable quantities of such resources are located thereon. Failure to obtain additional financing on a timely basis could cause the Company to forfeit its interest in such properties. If additional financing is raised through the issuance of equity or convertible debt securities of the Company, the interests of shareholders in the net assets of the Company may be diluted.

### Covid-19 Pandemic

The Company cannot accurately predict the impact the Covid-19 pandemic may have on its operations, including uncertainties relating to the duration of the pandemic, the duration of any travel restrictions imposed by governmental authorities, and the impact on schedules and timelines for planned operations or exploration programs. In addition, this widespread health crisis and related business disruption may adversely affect the Company's ability to finance its planned operations.

### **Exploration, Development and Operating Risk**

Resource exploration and development is a speculative business, characterized by a number of significant risks including, among other things, unprofitable efforts resulting not only from the failure to discover mineral deposits but also from finding mineral deposits that, though present, are insufficient in quantity and quality to return a profit from production. The marketability of minerals acquired or discovered by the Company may be affected by numerous factors that are beyond the control of the Company and that cannot be accurately predicted, such as market fluctuations, the proximity and capacity of milling facilities, mineral markets and processing equipment, and such other factors as government regulations, including regulations relating to royalties, allowable production, importing and exporting minerals and environmental protection, the combination of which factors may result in the Company not receiving an adequate return of investment capital. Many of the properties in which the Company holds an interest are in the exploration stage only and are without a known body of commercial ore. Development

of the subject mineral properties would follow only if favourable exploration results were obtained, and a positive feasibility study is completed.

The business of exploration for minerals and mining involves a high degree of risk. Few properties that are explored are ultimately developed into producing mines. There is no assurance that the Company's mineral exploration and development activities will result in any discoveries of commercial bodies of ore. The long-term profitability of the Company's operations will in part be directly related to the costs and success of its exploration and development programs, which may be affected by a number of factors.

Substantial expenditures are required to establish reserves through drilling and to develop the mining and processing facilities and infrastructure at any site chosen for mining. Although substantial benefits may be derived from the discovery of a major mineralized deposit, no assurance can be given that minerals will be discovered in sufficient quantities to justify commercial operations or that funds required for development can be obtained on a timely basis and at an acceptable cost.

In addition to the above, there can be no assurance that current exploration programs will result in profitable mining operations. The recoverability of the carrying value of interests in mineral properties and the Company's continued existence is dependent upon the preservation of its interests in the underlying properties, the discovery of economically recoverable reserves, the achievement of profitable operations, or the ability of the Company to raise additional financing, if necessary, or alternatively upon the Company's ability to dispose of its interests on an advantageous basis. Changes in future conditions could require material write- downs of the carrying values.

### No Assurance of Production

The Company has limited experience in placing resource properties into production, and its ability to do so will be dependent upon using the services of appropriately experienced personnel, consultants or contractors, or entering into agreements with other major resource companies that can provide such expertise. There can be no assurance that the Company will have available to it the necessary expertise when and if the Company places its resource properties into production and whether it will produce revenue, operate profitably or provide a return on investment in the future.

#### Fluctuating Mineral Prices

Metal prices are subject to significant fluctuations and are affected by a number of factors which are beyond the control of the Company. The principal factors include: diminished demand, which may arise if economic growth in China, North America, and/or Europe is not sustained, or if the expected growth in electric battery demand does not occur; increases in supply resulting from the discovery and the development of new sources of metals; and supply interruptions, due to changes in government policies, war, or international trade disputes or embargos. The effect of these factors on the future price of manganese and its effect on the Company's operations cannot be predicted.

### Factors beyond the Company's Control

The exploration and development of mineral properties and the marketability of any minerals contained in such properties will be affected by numerous factors beyond the control of the Company. These factors include government regulation, high levels of volatility in market prices, availability of markets, availability of adequate transportation and refining facilities and the imposition of new or amendments to existing taxes and royalties. The effect of these factors cannot be accurately predicted.

#### **Environmental Risks and Hazards**

The Company's operations are subject to environmental regulations in the jurisdiction in which it operates. Environmental legislation provides for restrictions and prohibitions on spills, releases or emissions of various substances produced in association with certain mining industry operations, such as seepage from tailings disposal areas, which would result in environmental pollution. A breach of such legislation may result in the imposition of fines and penalties. In addition, certain types of operations require the submission and approval of environmental impact assessments. Environmental legislation is evolving in a manner that means standards are stricter, and enforcement, fines and penalties for non-compliance are more stringent. Environmental assessments of proposed projects carry a heightened degree of responsibility for companies and directors, officers and employees. The cost of compliance with changes in governmental regulations has a potential to reduce the profitability of operations.

### FINANCIAL RISK MANAGEMENT

#### Fair value

The carrying amounts for cash and cash equivalents, marketable securities amounts receivable and accounts payable and accrued liabilities on the carve-out consolidated statements of financial position approximate fair value because of the limited term of these instruments.

### Liquidity risk

The Company's liquidity exposure is confined to meeting obligations under short term trade creditor arrangements. This exposure is financed from a combination of cash, additional issues of ordinary equity shares and other financing arrangements.

Further details of the Company's financial risk management policies are set out in Note 23 of the December 31, 2021 annual consolidated financial statements.

### **OFF-BALANCE SHEET ARRANGEMENTS**

The Company has no off-balance sheet arrangements.

#### FINANCIAL INSTRUMENTS

The Company has no interest-bearing debt. The Company's current policy is to invest excess cash in investment-grade short-term deposit certificates issued by major banks. The Company periodically monitors the investments it makes and is satisfied with the credit ratings of its banks.

The Company has designated its cash and cash equivalents as held-for-trading, which are measured at fair value. Fair value estimates of financial assets and liabilities are made at the balance sheet date, based on relevant market information and information about the financial instrument. These estimates involve uncertainties and are subjective in nature. Other financial instruments included in current assets are classified as loans and receivables, which are measured at amortized costs. Accounts payable and accrued liabilities are classified as other financial liabilities, which are measured at amortized cost. As at December 31, 2021, the carrying and fair value amounts of the Company's financial instruments were the same.

### **OUTSTANDING SHARE CAPITAL**

The Company has an authorized capital consisting of an unlimited number of common shares. At December 31, 2021 and the date of this MD&A, a total of 144,714,580 common shares of the Company are issued and outstanding.

At December 31, 2021 and the date of this MD&A, there are 4,778,336 share purchase warrants outstanding. Of these, 4,445,003 warrants are exercisable at \$0.18 per share until March 17, 2024 and 333,333 warrants are exercisable at \$0.27 per share until April 29, 2024.

At December 31, 2021 and the date of this MD&A, there are 7,928,440 stock options outstanding pursuant to the Company's Stock Option Plan. Of these, 5,278,440 options are exercisable at \$0.18 per share until June 30, 2025 and 2,650,000 options are exercisable at \$0.25 per share until June 30, 2026.

At December 31, 2021 and the date of this MD&A, there are 1,700,000 restricted share units outstanding pursuant to the Company's RSU Plan, all of which expire on December 31, 2024.

### **DISCLOSURE CONTROLS AND PROCEDURES**

The Company's disclosure controls and procedures are designed to provide reasonable assurance that information is accumulated and communicated to the Company's management, including the Chief Executive Officer and Chief Financial Officer, as appropriate, to allow timely decisions regarding required disclosure. As of December 31, 2021, the Company's management, with the participation of the Chief Executive Officer and Chief Financial Officer, evaluated the effectiveness of its disclosure controls and procedures, as defined under the Canadian securities regulatory authorities, and have concluded that the Company's disclosure controls and procedures are effective.

### INTERNAL CONTROL OVER FINANCIAL REPORTING

Management of the Company is responsible for establishing and maintaining adequate internal control over financial reporting. These controls include policies and procedures that:

- pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the Company;
- provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with International Financial Reporting Standards as issued by the International Accounting Standards Board, and that receipts and expenditures are being made only in accordance with authorizations of management and directors of the Company; and
- provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use or disposition of the Company's assets that could have a material effect on the financial statements.

All control systems contain inherent limitations, no matter how well designed. As a result, the Company's management acknowledges that its internal control over financial reporting will not prevent or detect all misstatements due to error or fraud. In addition, management's evaluation of controls can provide only reasonable, not absolute, assurance that all control issues that may result in material misstatements, if any, have been detected. Management assessed the effectiveness of internal control over financial reporting, using the Internal Control-Integrated Framework 2013 issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO), and based on that assessment concluded that internal control over financial reporting was effective as at December 31, 2021.

### Changes in internal control over financial reporting

There have been no changes in the Company's internal control over financial reporting that have materially affected, or are reasonably likely to materially affect, the Company's internal control over financial reporting during the year ended December 31, 2021.

### **ADDITIONAL INFORMATION**

Additional information regarding the Company is available under the Company's profile on SEDAR at www.sedar.com, including the audited annual consolidated financial statements and annual information form for the year ended December 31, 2021.

### FORWARD-LOOKING STATEMENTS

This management's discussion and analysis contains certain forward-looking statements relating to, but not limited to, the Company's expectations, intentions, plans and beliefs. Forward-looking information can often be identified by forward-looking words such as "anticipate", "believe", "expect", "goal", "plan", "intend", "estimate", "may" and "will" or similar words suggesting future outcomes, or other expectations, beliefs, plans, objectives, assumptions, intentions or statements about future events or performance. Forward-looking information may include reserve and resource estimates, estimates of future production, unit costs, costs of capital projects and timing of commencement of operations, and is based on current expectations that involve a number of business risks and uncertainties. Factors that could cause actual results to differ materially from any forward-looking statement include, but are not limited to, failure to establish estimated resources and reserves the grade and recovery of ore which is mined varying from estimates, capital and operating costs varying significantly from estimates, delays in obtaining or failures to obtain required governmental, environmental or other project approvals, delays in the development of projects changes in exchange rates, fluctuations in commodity prices, inflation and other factors. Forward-looking statements are subject to risks, uncertainties and other factors that could cause actual results to differ materially from expected results. Shareholders and prospective investors should be aware that these statements are subject to known and unknown risks uncertainties and other factors that could cause actual results to differ materially from those suggested by the forward-looking statements. Shareholders are cautioned not to place undue reliance on forward-looking information. By its nature, forward-looking information involves numerous assumptions, inherent risks and uncertainties, both general and specific, that contribute to the possibility that the predictions, forecasts, projections and various future events will not occur. The Company undertakes no obligation to update publicly or otherwise revise any forward-looking information whether as a result of new information, future events or other such factors which affect this information, except as required by law.