



**EURO
MANGANESE**

EURO MANGANESE INC.

Annual Information Form

For the year ended September 30, 2023

December 14, 2023

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FORWARD LOOKING STATEMENTS

Certain statements in this AIF constitute “forward-looking statements” or “forward-looking information” within the meaning of applicable securities laws. Such statements and information involve known and unknown risks, uncertainties and other factors that may cause the actual results, performance or achievements of the Company, its Chvaletice mineral project, its proposed Bécancour Plant or industry results, to be materially different from any future results, performance or achievements expressed or implied by such forward-looking statements or information. Such statements can be identified by the use of words such as “may”, “would”, “could”, “will”, “intend”, “expect”, “believe”, “plan”, “anticipate”, “estimate”, “scheduled”, “forecast”, “predict” and other similar terminology, or state that certain actions, events or results “may”, “could”, “would”, “might” or “will” be taken, occur or be achieved.

Regarding the Chvaletice Manganese Project, results of the Feasibility Study constitutes forward-looking information or statements, including but not limited to estimates of internal rates of return payback periods, net present values, future production, assumed prices for HPMSM and HPEMM, ability of the Company to achieve a pricing premium for its products, proposed extraction plans and methods, operating life estimates, cash flow forecasts, metal recoveries and estimates of capital and operating costs. Such forward-looking information or statements also include, but are not limited to, statements regarding the ability of the Company to deliver on samples meeting specifications to potential customers from the demonstration plant, the timing for each phase of the EPCM contract, timing of final investment decision, the acceptability of the revised Final ESIA documentation by the Czech Ministry of Environment and the anticipated timing of various regulatory approvals, statements regarding the ability of the Company to obtain remaining surface rights and various permits, the benefits of remediating the historic tailings areas, statements regarding the expectation of the Company that the net proceeds from the first tranche of the Convertible Loan Facility will be sufficient funding to complete the permitting of the Chvaletice mineral project, complete the commissioning of the demonstration plant and its operation, complete the acquisition of certain land parcels required for the Project, and certain site preparation works, and for general and administration expenses for more than 12 months; the growth and development of the high purity manganese products market, the desirability of the Company’s products, the ability of the Company to enter into binding offtake agreements with potential customers, the growth of the EV industry, the use of manganese in batteries, the manganese project supply line, support from European financial institutions, any anticipated benefits from legislation and the Company’s ability to obtain financing.

Regarding the Bécancour Plant, forward-looking statements include, but are not limited to, statements concerning the Company’s plans for advancing the Bécancour Plant and results of the Scoping Study including estimates of internal rates of return, net present values, and estimates of costs. Such forward-looking information or statements also include, but are not limited to, statements regarding the timing for completion of the Bécancour feasibility study, the Company’s ability to acquire the Bécancour land parcel, the Company’s ability to reach a definitive agreement with MMC to supply feedstock, the Company’s estimated engineering/construction timelines to build the Bécancour Plant and ability to arrange necessary infrastructure, the Company’s ability to provide supplemental HPEMM feedstock to the Bécancour Plant from the Chvaletice Project and source other feedstock, the technical capability of the Bécancour Plant and the Company’s ability to operate the Bécancour Plant and produce both HPMSS and HPMSM and any associated cash flow and timelines for cash flow, the projected growth of the North American demand for high-purity manganese products, any benefits of legislation, the economic and environmental benefits of producing HPMSS, the Company’s ability to secure offtake from North American customers, the Company’s ability to raise the necessary financing, and the timing of any permit application submissions and approvals and continuing successful cooperation with the W8banaki Nation.

Readers are cautioned not to place undue reliance on forward-looking information or statements. Forward-looking statements are subject to a number of risks and uncertainties that may cause the actual results of the Company to differ materially from those discussed in the forward-looking statements and, even if such actual results are realized or substantially realized, there can be no assurance that they will have the expected consequences to, or effects on, the Company.

Factors that could cause actual results or events to differ materially from current expectations include, among other things for the Chvaletice Project, lack of sufficient funding; the ability to develop adequate processing capacity and production; the availability of equipment, facilities, and suppliers necessary to complete development; the cost of consumables and extraction and processing equipment; risks and uncertainties related to the ability to obtain, amend, or maintain necessary licenses, or permits, risks related to acquisition of surface rights; the potential for unknown or unexpected events to cause contractual conditions to not be satisfied; the failure of parties to contract with the Company to perform as agreed; risks and uncertainties related to the accuracy of mineral resource and reserve estimates, variations in rates of recovery and extraction, the price of HPEMM and HPMSM, power supply sources and price, reagent supply resources and prices, future cash flow, total costs of production, and diminishing quantities or grades of mineral resources and reserves; the inability to secure sufficient offtake agreements; the inability to meet conditions under the Company's secured credit facility and risks related to granting security; a delay or inability to get the ESIA approved by relevant authorities; unexpected results or unsuccessful completion of the various stages of the EPCM contract; and changes in project parameters as plans continue to be refined. For the Bécancour Plant, factors include, among other things: assumptions in the scoping study not proving accurate over time and negatively affecting results; an inability to obtain financing, unanticipated operational difficulties including failure of the Bécancour Plant; cost escalation for reagents, labour, power and other cost increases; inability to secure key reagents; a delay or inability to obtain or maintain necessary licenses or permits; the potential for unknown or unexpected events to cause contractual conditions to not be satisfied; inability to complete feasibility study or other technical studies or unexpected results; and risks and uncertainties related to limited feedstock supply options.

Additional factors that could cause results or events to differ materially from current expectations include risks related to global epidemics or pandemics and other health crises; availability and productivity of skilled labour; risks and uncertainties related to interruptions in production; unforeseen technological and engineering problems; the adequacy of infrastructure; risks related to working conditions, accidents or labour disputes; social unrest or war; the possibility that future results will not be consistent with the Company's expectations; increase in competition, developments in EV battery markets and chemistries; risks related to fluctuations in currency exchange rates, changes in laws or regulations; and regulation by various governmental agencies and changes or deterioration in general economic conditions. For a further discussion of risks relevant to the Company, refer to the "*Risk Factors*" section of this AIF.

All forward-looking statements are made based on the Company's current beliefs as well as various assumptions made by the Company and information currently available to the Company. For the Chvaletice Manganese Project, these assumptions include, among others: the presence of and continuity of manganese at estimated grades; the ability of the Company to obtain all necessary land access rights and permits; the availability of personnel, machinery, and equipment at estimated prices and within estimated delivery times, and the successful completion of the various stages of the EPCM contract. For the Bécancour Plant, assumptions include demand for products develops as anticipated, that customers and other counterparties perform their contractual obligations, that operating and capital plans will not be disrupted by issues like lack of availability of personnel, machinery, equipment, there are no material variations in costs, successful completion and positive outcome of the feasibility study, and that the Company will obtain required environmental and other permits. In addition, general assumptions include

currency exchange rates; manganese sales prices; growth in the manganese market; appropriate discount rates applied to the cash flows in economic analyses; tax rates and royalty rates applicable to the proposed operations; the availability of acceptable financing; success in realizing proposed operations; and favorable regulatory environment.

Although the forward-looking statements contained in this AIF are based upon what management of the Company believes are reasonable assumptions, the Company cannot assure investors that actual results will be consistent with these forward-looking statements. These forward-looking statements are made as of the date of this AIF and are expressly qualified in their entirety by this cautionary statement. Subject to applicable securities laws, the Company does not assume any obligation to update or revise the forward-looking statements contained herein to reflect events or circumstances occurring after the date of this AIF.

DEFINITIONS AND OTHER INFORMATION

Currency

All references to "\$", "CAD\$" or "dollars" in this AIF mean Canadian dollars. References to "A\$" are to Australian dollars, references to "USD\$" are to United States dollars, references to "CZK\$" are to Czech Koruna, and references to "€" are to Euros.

Definitions

Terms used but not otherwise defined in this AIF have the meanings given to them in Schedule "A" attached hereto.

Scientific and Technical Information

The scientific and technical information with respect to the Chvaletice Manganese Project contained in this AIF is derived from the independent NI 43-101 technical report with an effective date of July 27, 2022 (released September 9, 2022) entitled "*Technical Report and Feasibility Study for the Chvaletice Manganese Project Chvaletice, Czech Republic*" prepared by Mr. James Barr, P. Geo, Senior Geologist, Mr. Jianhui (John) Huang, Ph.D., P. Eng., Senior Metallurgical Engineer, Mr. Hassan Ghaffari, P. Eng., M.A.Sc., Senior Process Engineer, Mr. Chris Johns, P. Eng., Senior Geotechnical Engineer, and Mrs. Maureen Marks, P. Eng., Senior Mining Engineer (the "**Technical Report**").

The full text of the Technical Report has been filed with Canadian securities regulatory authorities pursuant to NI 43-101 and is available for review under the Company's SEDAR+ profile at www.sedarplus.ca.

Ms. Andrea Zaradic, P. Eng., EMN's Vice President Operations, has reviewed and approved the scientific and technical information in respect of the Chvaletice Manganese Project contained in this AIF. Ms. Zaradic is considered, by virtue of her education, experience and professional association, to be a qualified person for the purposes of NI 43-101. Ms. Zaradic is not independent within the meaning of NI 43-101.

CORPORATE STRUCTURE OF THE COMPANY

Name, Address and Incorporation

Euro Manganese Inc. was incorporated under the BCBCA on November 24, 2014.

The Shares were listed for trading on the TSXV on October 2, 2018, under the symbol "EMN". The Shares, in the form of CDIs, were admitted to the Official List of the ASX effective September 28, 2018 and trade under the symbol "EMN" on the ASX. On October 11, 2018, the Shares became eligible to trade on the Frankfurt Stock Exchange under the trading symbol "E06". Additionally, on June 15, 2021, the Shares began trading on the OTCQX Best Market ("OTCQX") under the symbol "EUMNF." The Company is a reporting issuer in Canada in British Columbia, Alberta and Ontario.

The registered office of the Company is located at Suite 1700 – 666 Burrard Street, Vancouver, British Columbia V6C 2X8 and its head office is located at Suite 709 – 700 West Pender Street, Vancouver, BC V6C 1G8.

Intercorporate Relationships

References in this AIF to the business of the Company include the business conducted by its sole subsidiary, Mangan Chvaletice s.r.o. The Company holds 100% of the capital of Mangan, a company formed under the laws of the Czech Republic. Mangan holds a 100% interest in the Chvaletice Manganese Project.

GENERAL DEVELOPMENT OF THE BUSINESS

Overview

EMN is a publicly-traded company whose principal business is the evaluation and potential development of the Chvaletice Manganese Project in the Czech Republic, which involves the re-processing of a manganese deposit hosted in historic mine tailings. The Company's activities in the Czech Republic are conducted through its wholly-owned subsidiary, Mangan, which holds a 100% interest in the Chvaletice Manganese Project. The Company has also started to progress an opportunity to develop a project to produce high-purity manganese products in Canada for the North American market (the "**Bécancour Plant**"). The Company's goal is to produce high-purity manganese products in an economically, socially and environmentally-sound manner, principally for use in lithium-ion batteries.

The Company acquired its 100% interest in Mangan, from Mangan's founding shareholders on May 13, 2016 pursuant to an acquisition agreement (the "**Mangan Acquisition Agreement**"). In connection with the acquisition, the Company agreed to issue:

- (1) Shares in five equal tranches, each tranche valued at \$300,000, for a total value of \$1,500,000. As of May 13, 2020, all Shares issuable under the Mangan Acquisition Agreement have been issued.
- (2) The grant of an aggregate 1.2% net smelter royalty ("**NSR**") interest in the Chvaletice Manganese Project, pursuant to three separate arm's length royalty agreements (each, a "**Royalty Agreement**") as follows: (i) to Mr. Jiří Šourek as to a 0.396% NSR; (ii) to Mr. Pavel Reichl, as to a 0.408% NSR; and (iii) Mr. Tomáš Pechar, as to a 0.396% NSR. On May 31, 2021, the Company entered into royalty termination agreements ("**Royalty Termination Agreements**")

with each of the royalty holders to purchase and extinguish the 1.2% NSR for aggregate consideration of USD\$4.5 million (approximately \$5.5 million). As described under “*Three Year History – 2021 Financial Year and 2022 Financial Year*,” 20% of the aggregate consideration, amounting to USD\$900,000 (\$1,085,698) was paid May 31, 2021; and 80%, amounting to USD\$3,600,000, was paid on January 31, 2022, by a combination of USD\$1,800,000 (\$2,340,965) in cash and the issuance of 4,820,109 common shares at a price of \$0.47262 per common share valued at \$2,278,080 (USD\$1,800,000).

Three Year History

2021 Financial Year

During the year ended September 30, 2021 (“**FY’21**”), the Company issued a total of 119,320,528 Shares having an aggregate value of \$42,282,111, comprised of: (i) a brokered private placement in the first quarter of FY’21 of 1,933,246 Shares and 58,066,754 CDIs, at a price of \$0.19 per Share and A\$0.20 per CDI, respectively, for aggregate gross proceeds of \$11,339,829; (ii) a non-brokered private placement in the second quarter of FY’21 of 444,445 Shares at a price of \$0.45 per Share for aggregate gross proceeds of \$200,000; (iii) a brokered private placement in the third quarter of FY’21 of 50,000,000 CDIs at a price of A\$0.60 per CDI for aggregate gross proceeds of A\$30,000,000 (\$28,609,561); (iv) the issuance of 3,119,333 Shares pursuant to the exercise of stock options, having an aggregate value of \$515,376; and (iv) 5,756,750 Shares pursuant to the exercise of broker warrants, having an aggregate value of \$1,944,525.

During FY’21, the Company received investment instalments aggregating €187,500 (\$278,012) from EIT InnoEnergy, an EU-backed organization. These represent two of the three investment installments by EIT InnoEnergy, which in the aggregate will be €250,000. The last installment of €62,500 was made mid-way through fiscal 2022. In connection with the first two installments, based on the volume weighted average trading price of the Shares on the TSXV for the ten trading days immediately prior to the date of the installments, and following approval by the TSXV, the Company issued 478,027 Shares in January 2022 to EIT InnoEnergy.

On May 31, 2021, the Company entered into the Royalty Termination Agreements to purchase and extinguish an aggregate 1.2% NSR interest in the Manganese Chvaletice Project for aggregate consideration of USD\$4.5 million (approximately \$5.5 million). Pursuant to the Royalty Termination Agreements, the Company paid an aggregate of USD\$0.9 million (\$1.1 million) on May 31, 2021, and paid the balance of USD\$3.6 million on January 31, 2022, as described below in the fiscal year ended September 30, 2022.

During FY’21, the Czech Ministry of the Environment (the “**Ministry**”) granted Mangan an extension of its exploration licences by three years to May 31, 2026. The extension allows work to continue on all aspects of the manganese resource development, including the tailings extraction for the Chvaletice Manganese Project’s planned Demonstration Plant. The Ministry also granted Mangan a new Preliminary Mining Permit, valid until May 31, 2026. The permit secures Mangan’s exclusive rights to the Chvaletice tailings resource and the Company’s right to conduct the Final Environmental and Social Impact Assessment (“**Final ESIA**”).

In the second quarter of FY’21, the Company announced the conclusion of a six-month screening of the Chvaletice Manganese Project’s preliminary EIA by the Ministry. Based on the official notification received from the Ministry, the Company proceeded with the next stage of the environmental permitting

process, which was the preparation of the Final ESIA. Late in the fourth quarter of FY'21, Mangan was also issued the construction permit to upgrade two industrial buildings at the planned commercial plant site, which will host the Demonstration Plant, and the upgrade work commenced in October 2021. In October 2021, the Company's pilot plant, which was originally operated in 2018, was restarted to produce product samples for certain prospective customers to continue or initiate their supply chain qualification.

Total project evaluation expenses of \$4.9 million and administrative expenditures of \$4.6 million for FY'21 were both up from prior years, mostly due to the cost cutting measures put in place in FY'20 as a result of the COVID-19 pandemic and increased activities in FY'21 related to the Feasibility Study for the Chvaletice Manganese Project.

2022 Financial Year

During the year ended September 30, 2022 ("FY'22"), the Company issued a total of 23,632,136 Shares having an aggregate value of \$11,309,838, comprised of: a private placement of 17,800,000 common shares to the European Bank for Reconstruction and Development ("**EBRD**") at a price of \$0.4775 per share for gross proceeds of \$8,499,500 (the "**EBRD Placement**"); the issuance of 534,000 common shares at a deemed price of \$0.4775 per share as a non-cash finder's fee of \$254,985, being 3% of the gross proceeds of the EBRD Placement; the issuance of 147,380 and 330,647 common shares to EIT InnoEnergy at prices of \$0.63 and \$0.56 per share, respectively, in connection with the first and second instalment tranches made in FY'21; and the issuance of 4,820,109 common shares at a price of \$0.47262 per common share valued at USD \$1,800,000 (\$2,278,080) in connection with the final payment due under the Royalty Termination Agreements.

In the second quarter of FY'22, Dr. Matthew James was appointed as President and Chief Executive Officer and as a member of the Board. Dr. James succeeded Marco Romero, the founder of the Company. In April 2022, Ms. Hanna Schweitz was appointed to the Board, bringing significant experience in the metals and EV battery materials industry.

In the third quarter of FY'22, the Company concluded a land access agreement with the Municipality of Chvaletice ("**Chvaletice**") which grants the Company access to a portion of the tailings surface area until the earlier of a 40-year period or upon remediation of the land. The Company also acquired several land parcels aggregating 78,437m² which are adjacent to the tailings area and will provide additional room and flexibility for the Chvaletice residue storage facility layout. During the second quarter of FY'22, the Village of Trnavka ("**Trnavka**"), on which approximately 85% of the Chvaletice Manganese Project's tailings are located, formally approved the rezoning of such land for mining use.

On July 27, 2022, the Company announced positive Feasibility Study base case results for the Project supporting a 25-year project life with robust economics having an after-tax net present value ("**NPV**") of US\$1.34 billion at an 8% real discount rate and an ungeared 21.9% IRR and a pre-tax NPV of US\$1.75 billion at 8% real discount rate and an ungeared 24.9% IRR. Based on HPMSM and HPEMM price forecasts prepared by CPM Group LLC ("**CPM Group**"), a leading, independent commodities market research firm with expertise in high-purity manganese, the upside case shows an after-tax NPV of US\$1.79 billion at an 8% real discount rate and an ungeared 24.1% IRR. See "*Description of the Business – The Chvaletice Manganese Feasibility Study.*"

Concurrent with the completion of the Feasibility Study, the Company appointed Stifel Nicolaus Europe Limited, ("**Stifel**") as financial advisor to assist with the structuring and securing of project financing for the Chvaletice Manganese Project. In the fourth quarter of FY'22, the Company also began the process

of preparing an Engineering, Procurement, Construction Management ("**EPCM**") tender package for the next stage of project development.

Following the arrival at site in early September 2022, the Demonstration Plant modules were unpacked, placed in position within the two fully refurbished buildings adjacent to the intended site of the high-purity manganese processing plant. Commissioning of the Demonstration Plant, on a module-by-module basis, commenced in early November 2022. The Demonstration Plant is intended to produce bulk, multi-tonne high-purity manganese finished product samples for customer testing, evaluation and qualification.

2023 Financial Year

During the year ended September 30, 2023 ("**FY'23**"), the Company issued a total of 1,553,676 Shares having an aggregate value of \$207,650, comprised of: the issuance of 237,077 Shares to EIT InnoEnergy at prices of \$0.34 per Share, in connection with the third instalment tranche €62,500 made on August 26, 2022; and the issuance of 1,316,599 Shares pursuant to the exercise of stock options having an aggregate value of \$207,650.

In the first quarter of FY'23, the Company entered into an option agreement with The Société du parc industriel et portuaire de Bécancour ("**SPIP**"), a Québec state enterprise and owner of a 15-hectare land parcel within Bécancour (the "**Bécancour Option Agreement**") where the Company is evaluating the establishment of a North American facility. The Bécancour Option Agreement allows the Company to exclusively conduct due diligence over a maximum term of 21 months, during which the Company has the opportunity to purchase the site. This was followed up later in FY'23 with: the completion of a scoping study for the Bécancour dissolution plant showing strong preliminary project economics, with a post-tax NPV of \$190 million using an 8% discount rate and a post-tax IRR of 26%; the signing of a memorandum of understanding ("**MoU**") with Manganese Metal Company ("**MMC**") for supply of HPEMM, providing feedstock optionality for the Bécancour Plant allowing it to be fed with HPEMM from MMC and/or with HPEMM from the Chvalétice Manganese Project; the appointment of WSP Canada ("**WSP**") to complete a Bécancour Plant feasibility study; and the signing of a cooperation agreement with the Grand Conseil de la Nation Waban-Aki ("**W8banaki**") related to the Bécancour Plant.

In the first quarter of FY'23, the Company also announced positive results of the life cycle assessment study ("**LCA**") comparing the Global Warming Potential of the Chvalétice Manganese Project to the incumbent industry in China, showing an average 60% lower greenhouse emission potential of both products planned for the Chvalétice Manganese Project, and it published its inaugural 2022 Sustainability Report which outlines how it is leading the way for sustainable production of high-purity manganese for the EV industry.

In the second quarter of FY'23, the Company signed a non-binding term sheet with Verkor, a low-carbon battery manufacturer based in Grenoble, France, for the sale of HPMSM from the Chvalétice Manganese Project. Following the arrival and assembly of the Demonstration Plant modules in late FY'22, the Company continued its commissioning and reported in April 2023 that an external laboratory confirmed that HPEMM produced from the Demonstration Plant met its target specifications of 99.9% manganese metal purity. Corrosion inside the crystallizer due to a manufacturing fault resulted in delayed production of on-spec HPMSM material. This issue was addressed and HPMSM was successfully produced from third party metal with similar specifications to HPEMM from the Demonstration Plant. HPEMM from the Chvalétice demonstration plant will be used to complete commissioning. Deliveries of HPEMM and HPMSM samples to potential customers are expected to commence thereafter. Customer

deliveries of the Company's Demonstration Plant products, however, are not expected to be required for completion of offtake contracts.

At the very end of the third quarter of FY'23, the Company awarded the EPCM contract for its Chvaletice Manganese Project to Wood Australia ("**Wood**") based on cost of service as well as their proposed project schedule, technical and engineering capability, EU experience, team skill set, and overall execution strategy. The contract has two phases, with an approval stage gate between each phase. Phase 1 includes Front End Engineering Design ("**FEED**"). Phase 2 is the EPCM phase, which includes detailed design, procurement, construction, and commissioning. A Final Investment Decision ("**FID**") from the Board of Directors is to be made prior to commencement of Phase 2 and would require securing the outstanding permits and project equity and debt financing.

In the fourth quarter of FY'23, the Chvaletice Manganese Project was announced as a project to be supported under the inter-governmental Minerals Security Partnership ("**MSP**"), a collection of 13 countries and the European Union, representing over 50 percent of global GDP, that aims to catalyze public and private sector investment to build diverse, secure and responsible critical mineral supply chains globally. The Company also announced that Chvaletice, which lies just to the west of the Chvaletice Manganese Project and on which a portion of its tailings and commercial plant site are located, formally approved the rezoning of tailings land for mining use. Together with the rezoning of the Trnavka tailings land for mining use approved in FY'22, the rezoning requirements for the Chvaletice Manganese Project are now complete. In the fourth quarter of FY'23, the Company signed a lease agreement with ČEZ a.s. (the "**ČEZ Lease Agreement**") for access to land in the tailings area that is required for the development of the Chvaletice Manganese Project. Together with the land access lease signed with Chvaletice in FY'22, the Company now has access to approximately 85% of the total Proven and Probable manganese Reserves required for the Chvaletice Manganese Project. The Company continues negotiations with respect to the acquisition of the balance of the surface rights with the remaining landowner.

Early in the second quarter of FY'23, the Company submitted the final Environmental and Social Impact Assessment ("**Final ESIA**") for the Chvaletice Manganese Project to the Ministry. The Ministry received comments from 14 relevant authorities on the Final ESIA, all but one of which approved the relevant studies. The Ministry returned the Final ESIA to the Company to address comments from that authority, related to noise abatement. While the Chvaletice Manganese Project's anticipated noise levels are within legislative limits for an industrial project, the cumulative effect when combined with neighbouring operations' existing noise emissions marginally exceeded permitted noise levels at the measurement points, located at the closest residential areas. The Company completed the necessary work to achieve the reduction in modelled noise level emissions and addressed the authority's comments to their satisfaction. The Company resubmitted the amended Final ESIA to the Ministry in the fourth quarter of FY'23, allowing the Final ESIA approval process to continue, and anticipates the issuance of a positive decision on the revised Final ESIA early in calendar 2024.

On November 28, 2023, the Company signed definitive agreements with OMRF (BK) LLC ("**Orion**"), which is managed by the Orion Resource Partners Group, for US\$100 million in financing (the "**Funding Package**") to advance the development of the Chvaletice Manganese Project. The US\$100 million Funding Package is split into two US\$50 million components: (a) a US\$50 million loan facility convertible into a 1.29-1.65% royalty on Project revenues (the "**Convertible Loan Facility**"), with US\$20 million received upon closing on November 29, 2023, and an additional US\$30 million to be received upon meeting milestones; and (b) and receipt of US\$50 million in exchange for a 1.93-2.47%

royalty on revenues following a final investment decision by the Company's Board of Directors and other conditions precedents typical for this type of financing (the "**Royalty Financing**").

The Convertible Loan Facility bears interest at 12% per annum, payable quarterly, and has an initial maturity of 36 months, which may be extended by Orion up to an additional 36 months. Orion may convert the Convertible Loan Facility into the royalty at any time, while the Company may force conversion into the royalty upon a successful completion test of the Project's commercial plant. The converted royalty and the royalty under to the Royalty Financing are for the life of the Chvaletice Manganese Project.

In connection with the Funding Package, Orion has been granted comprehensive security over the assets and rights of the Chvaletice Manganese Project. Conditions precedent to the US\$30 million tranche of the Convertible Loan Facility include completion of offtake agreements for 40% of the Chvaletice Manganese Project's high-purity manganese production for the first five years of production and securing a strategic investor. Covenants and events of default include customary covenants and undertakings and events of default for a secured financing of this nature, including, but not limited to, completion of key commercial agreements, securing a strategic investor, and completion of various technical milestones aligned with the Company's progress to a final investment decision.

Also in connection with the Funding Package, Orion have been granted an off-take option of between 20-22.5% of the Chvaletice Manganese Project's high-purity manganese total production for a term of 10 years from first delivery, matching the commercial terms of the Company's sales. Such right is exercisable until the Company signs 60% of the total offtake.

DESCRIPTION OF THE BUSINESS

General

EMN is a Canadian public company whose shares are listed on the TSXV and the ASX under the symbol "EMN," on the Frankfurt Stock Exchange under the symbol "EO6," and on the OTCQX under the symbol "EUMNF." The Company's principal business is the evaluation and potential development of the Chvaletice Manganese Project, which involves the re-processing of a manganese deposit hosted in historic mine tailings to produce high purity manganese products. The Company's activities in the Czech Republic are conducted through its wholly-owned subsidiary, Mangan, which holds the rights to the Chvaletice Manganese Project and related exploration tenures, permits and real property. The Company has also started to progress its Bécancour Plant, an opportunity to develop a project to produce high-purity manganese products in Canada for the North American market.

With the development of the Chvaletice Manganese Project, the Company aims to establish a reliable producer of HPEMM and/or HPMSM to satisfy the needs of producers of lithium-ion battery precursor materials, as well as producers of specialty steel and aluminum alloys.

The Company is committed to advancing the Chvaletice Manganese Project in an effective, efficient and prudent manner while adhering to the best practices in corporate governance, application of technology, environmental excellence and social integration. The Company's goal is to develop a state-of-the-art, commercially-viable and environmentally sustainable business enterprise.

2024 Financial Year - Outlook

The Company expects that net proceeds from the first tranche of the Convertible Loan Facility will be sufficient funding to complete the permitting of the Chvaletice Manganese Project, complete the commissioning of the Demonstration Plant, initiate certain FEED Phase 1 activities from the EPCM contract and certain site preparation works, complete the acquisition of certain land parcels required for the Chvaletice Manganese Project, and for general and administration expenses for more than 12 months. Upon achieving the conditions precedent to the second tranche of the Convertible Loan Facility, the Company will have available to it a further US\$30 million for the Chvaletice Manganese Project, including for the completion of the Phase 1 expenditures of the EPCM contract required to achieve FID. Following an FID by the Company's Board of Directors and upon achieving other conditions precedent under the Royalty Financing, the Company will have available to it a further US\$50 million for the Chvaletice Manganese Project to fund procurement, construction, and commissioning of the Chvaletice commercial plant and related infrastructure. Funding to progress the Company's North American strategy is expected to be provided by the Company's current cash and cash equivalents and future equity raises, and possible funding by strategic industry investors and government programs.

The Company's priorities for the upcoming fiscal year include:

Chvaletice Manganese Project, Czech Republic

- full commissioning and operating the Demonstration Plant to allow the Company to produce bulk, multi-tonne finished product samples for prospective customers' supply chain qualification;
- continuing negotiations with potential customers to enter offtake contracts, as well as with strategic and financial partners and government agencies;
- completing the acquisition of, or access to, the remaining land surface rights;
- Initiating the remaining work of Phase 1 (FEED) of the EPCM contract with Wood;
- securing an optimum financing structure for the Chvaletice Manganese Project, which is dependent upon the above milestones being achieved;
- initiating the project finance debt process; and

Bécancour Facility, Quebec, Canada

- progressing the feasibility study for the site at Bécancour Plant, subject to financing, for the potential production of high-purity manganese products in Canada for the North American EV market.

The approval of the Final ESIA is expected early in calendar 2024 and could potentially enable the final environmental permitting for the Chvaletice Manganese Project to be completed in late 2024 or early 2025, which together with the entering into of offtake agreements and the securing and structuring of financing, could enable a final investment decision to be made.

The Chvaletice Manganese Project Mineral Resource Estimate

The Chvaletice Manganese Project manganese resource is contained in three adjacent tailings piles that were emplaced on flat terrain immediately below the site of a flotation mill site, adjacent to the former Chvaletice open pit mine.

Tetra Tech prepared the NI 43-101 Technical Report, entitled "Technical Report and Mineral Resource Estimate for the Chvaletice Manganese Project, Chvaletice, Czech Republic", with an effective date of December 8, 2018, which was filed on SEDAR on January 28, 2019, and the JORC Code Technical Report, entitled "Public Report and Mineral Resource Estimate for the Chvaletice Manganese Project, Chvaletice, Czech Republic", with an effective date of December 8, 2018, was lodged on the ASX announcement platform on February 6, 2019, (together, the "**Mineral Resource Estimate**").

In mid-2019, the Company appointed Tetra Tech as the owner's engineering representative for the feasibility study, responsible for overseeing the consultants and service providers in connection with the feasibility study, and for the preparation of the NI 43-101/JORC Code feasibility study report for the Chvaletice Manganese Project. The Technical Report, entitled "Technical Report and Feasibility Study for the Chvaletice Manganese Project, Chvaletice, Czech Republic", with an effective date of July 27, 2022, was filed on SEDAR on September 9, 2022, and the JORC Code technical report, entitled "Public Report and Feasibility Study for the Chvaletice Manganese Project, Chvaletice, Czech Republic", with an effective date of July 27, 2022, was lodged on the ASX announcement platform on September 14, 2022.

No additional drilling or data collection pertaining to the technical disclosure of mineral inventory was undertaken since the completion of the Mineral Resource Estimate, and the effective date for the Mineral Resource Estimate is revised to July 1, 2022. See "*Chvaletice Manganese Project – 1.4 Mineral Resources.*" The Chvaletice Manganese Project's combined Measured and Indicated Mineral Resources included in the Technical Report amount to 26,960,000 tonnes, grading 7.33% total manganese is presented in the table below:

Historic Tailings Cell	In-situ Dry Bulk Density (t/m³)	Volume (x1,000 m³)	Tonnage (kt)	Grade Mn (% total Mn)
Cell #1				
Measured	1.52	6,577	10,029	7.95
Indicated	1.47	160	236	8.35
Cell #2				
Measured	1.53	7,990	12,201	6.79
Indicated	1.55	123	189	7.22
Cell #3				
Measured	1.45	2,942	4,265	7.35
Indicated	1.45	27	39	7.90
Total Measured	1.51	17,509	26,496	7.32
Total Indicated	1.50	309	464	7.85
Combined Measured + Indicated	1.51	17,818	26,960	7.33

Notes:

1. Estimated in accordance with the Canadian Institution of Mining ("CIM") Definition Standards on Mineral Resources and Mineral Reserves adopted by CIM Council, as amended, which are materially identical to JORC Code.
2. The Chvaletice Mineral Resource has a reasonable prospect for eventual economic extraction. Mineral Resources do not have demonstrated economic viability.
3. Indicated Resources have lower confidence than Measured Resources.
4. A break-even grade of 2.18% tMn has been estimated for the Chvaletice deposit based on preliminary pre-concentration operating costs of US\$6.47/t feed, leaching and refining operating cost estimates of US\$188/t feed, total recovery to HPEMM and HPMSM of approximately 60.5% and 58.9%, respectively, and product prices of US\$9.60 kg/t for HPEMM and US\$3.72 kg/t for HPMSM (GPM Group Report, June 2022). The actual commodity price for these products may vary.
5. A cut-off grade has not been applied to the block model. The estimated break-even cut-off grade falls below the grade of most of the blocks (excluding 5,000 tonnes which have grades less than 2.18% total Mn). It is assumed that material segregation will not be possible during extraction due to inherent difficulty of grade control and selective mining for this deposit type.
6. Grade capping has not been applied.
7. Numbers may not add exactly due to rounding.

The Chvaletice Manganese Project Mineral Reserve Estimate

Mineral Reserves for the Chvaletice Manganese Project are based on the Measured and Indicated Resource and adhere to the guidelines set by the Canadian Institute of Mining ("CIM"), NI 43-101 and

the CIM Best Practices. Material economic modifying factors were applied to each block in the block model including mined grade, contained metal, recovery rates for HPEMM and HPMSM, mining operating cost, processing cost (including EMM to MSM conversion cost), residue placement cost, general and administrative costs, site service costs, water treatment, shipping cost, product insurance, and royalties. See "*Chvaletice Manganese Project – 1.6 Mineral Reserves.*" The Chvaletice Manganese Project's combined Proven and Probable Mineral Reserve (effective July 14, 2022) amount to 26,644,000 tonnes, grading at 7.41% total manganese as detailed in the following table:

Historic Tailings Cell	In-situ Dry Bulk Density (t/m ³)	Volume (x1,000 m ³)	Tonnage (kt)	Grade Mn (% total Mn)
Cell #1				
Proven	1.51	6,651	10,132	7.83
Probable	1.52	141	208	8.24
Cell #2				
Proven	1.53	7,929	12,106	6.91
Probable	1.54	119	183	7.35
Cell #3				
Proven	1.46	2,744	3,979	7.49
Probable	1.46	25	36	7.98
Total Proven	1.50	17,325	26,217	7.35
Total Probable	1.51	284	427	7.84
Combined Proven + Probable	1.51	17,609	26,644	7.41

Notes:

1. Estimated in accordance with the CIM Definition Standards on Mineral Resources and Mineral Reserves adopted by CIM Council, as amended, which are materially identical to the JORC Code.
2. The Mineral Resource is inclusive of the Mineral Reserves.
3. Probable Reserves have lower confidence than Proven Reserves. Inferred Resources have not been included in the Reserves.
4. A break-even grade of 2.18% total Mn has been estimated for the Chvaletice deposit based on preliminary pre-concentration operating costs of \$6.47/t feed, leaching and refining operating cost estimates of \$188/t feed, total recovery to HPEMM and HPMSM of approximately 60.5% and 58.9% respectively and product prices of US\$9.60 kg/t for HPEMM and US\$3.72 kg/t for HPMSM (CPM Group Report, June 2022). The actual commodity price for these products may vary.
5. Grade capping has not been applied.
6. Numbers may not add exactly due to rounding.
7. Minimal dilution and losses of <1% are expected to occur at the interface between the lower bounds of the tailings cells and original ground as the surface is uneven.

The original exploration license for the Chvaletice Manganese Project, issued by the Czech Republic's Ministry of the Environment on September 2, 2014, was transferred to Mangan effective January 28, 2015 and was valid until September 30, 2019 ("**Exploration License Trnávka I**"). On December 4, 2018, Mangan received an extension of this license until May 31, 2023. On May 4, 2018, the Czech Ministry of Environment issued Mangan an additional exploration licence allowing it to drill the slopes on the perimeter of the tailings piles ("**Exploration License Trnávka II**"). Exploration License Trnávka II and also was valid until May 31, 2023. On July 2, 2021, the Ministry granted Mangan a three-year extension of Exploration License Trnávka I and the Exploration License Trnávka II (together the "**Licenses**") to May 31, 2026. On April 17, 2018, Mangan was issued a Preliminary Mining Permit by the Ministry, referred to by the Ministry as the prior consent of the establishment of the Mining Lease District (the "**Preliminary Mining Permit**"). This was valid until April 30, 2023, and was superseded on July 20, 2021 by a new Preliminary Mining Permit, valid until May 31, 2026. The Preliminary

Mining Permit covers the areas included in the Licenses and secures Mangan's rights for the entire deposit.

The Preliminary Mining Permit forms one of the prerequisites for the application for the establishment of the Mining Lease District and represents one of the key steps towards final permitting for the project. Based on the Preliminary Mining Permit and other documents, including the Environmental Impact Assessment, Mangan has until May 31, 2026 to apply for the establishment of the Mining Lease District covering the areas included in the Licenses. The establishment of the Mining Lease District, the application for the final Mining Permit, and applications for permits relating to the construction of infrastructure required for the project, are required prior to any extraction and processing activities at the Chvaletice Manganese Project.

To date, the Company has received the consent to conduct exploration activities and to access the site from all the landowners whose surface properties underlie the tailings, and has negotiated the acquisition of the surface rights with all but one remaining landowner whose land underlies approximately 15% of the Chvaletice tailings piles, including:

- a) On June 6, 2022, the Company and the Municipality of Chvaletice, being one of the landowners whose land underlies a portion of the Chvaletice tailings piles, signed a land access agreement via rental of the land to the Company until the earlier of a 40-year period or upon remediation of the land. The annual rental is CZK\$ 7.46 million (approximately \$420,000), adjusted for inflation based on the average annual Czech consumer price index for the 12 months of the previous calendar year. The land rental agreement is effective July 1, 2022.
- b) On June 7, 2022, the Company signed an agreement with a private landowner to acquire 78,437m² in total consisting of several land parcels adjacent to the tailings area that provide additional room and flexibility for the Chvaletice residue storage facility layout. The total cost of the land is CZK\$ 54,327,751 (approximately \$3.0 million). The first instalment of \$516,452 was paid on June 22, 2022. The second instalment of \$570,824 was paid in January 2023 and the remaining amount of approximately \$2 million is scheduled to be paid in January 2024.
- c) On October 30, 2023, the Company signed the ČEZ Lease Agreement granting it access to approximately 60% of the reserves in the Project's tailings area, including for mining infrastructure and tailings transportation. Together with the land access agreement with the Municipality of Chvaletice, the ČEZ Lease Agreement secures access to approximately 85% of the total reserves of the Chvaletice Manganese Project. Pursuant to the ČEZ Lease Agreement, land access has been granted for the life of the Chvaletice Manganese Project and during the subsequent period in which reclamation and revitalization of the premises is to take place, in return for a royalty on the Project's gross sales. During the period in which Chvaletice Manganese Project is expected to have project finance debt (the "**Debt Period**"), estimated to be seven years, the royalty will operate on a sliding scale from 0.2% to 1.8%, dependent on the average prices received for the Chvaletice Manganese Project's high-purity manganese products. Post the Debt Period, the royalty will be 1.8% of gross sales. Additionally, the ČEZ Lease Agreement also requires the Company to pay, commencing in 2027, a Minimum Rent of CZK 625,000 per calendar quarter (approximately \$37,000), adjusted annually commencing in 2028, based on inflation during the immediately preceding year.

The Company continues to negotiate the acquisition of the balance of the surface rights with the remaining landowner. However, there is no assurance that access to the remaining area will be secured

by the Company. See "*Risk Factors – Risks Relating to the Business of the Company and Industry-related Risks - Rights to use the Surface of the Company's Mineral Properties are not Guaranteed*".

Mangan has also entered into several agreements to acquire all the land intended for its ultra-high purity processing plant. These include the following:

- (i) An option agreement signed on August 13, 2018 granting it the right to acquire 100% of the equity of EP Chvaletice s.r.o. ("**EPCS**"), a company that owns a 19.94-hectare parcel of land suitable for the development of the Chvaletice Manganese Project tailings extraction facility and plant (the "**EPCS Option Agreement**"), by making payments totalling CZK\$ 140 million (approximately \$7.86 million) payable in three cash instalments. This land is located immediately south of the highway and rail line that bound the Chvaletice tailings deposit and immediately adjacent to the Chvaletice power plant and 1.7-hectare parcel of land and rail siding that was acquired by the Company in 2017. The land is zoned for industrial use and contains numerous buildings, including office, warehousing and other industrial structures, several of which are leased to short-term tenants. The land also contains two rail spurs and is served by gas, water and power. The Company has the right to acquire EPCS by making payments aggregating CZK\$ 140 million payable in four cash instalments, the first and second of which were paid on October 17, 2018 and August 13, 2021, each in the amount of CZK\$ 14 million (approx. \$815,000 and \$819,576, respectively). On August 10, 2022, the Company made the third payment of CZK\$ 42 million (approx. \$2,304,402) together with an extension fee of CZK\$ 2.1 million Czech Koruna (\$115,220). The Company can complete the acquisition of EPCS by making a final payment of CZK\$ 70,000,000 (approx. \$4.05 million), originally due no later than August 13, 2023. Following an amendment to the EPCS Option Agreement dated November 29, 2023, the final payment was split into two instalments. The first instalment of CZK\$ 20,000,000 (approximately \$1.2 million) was paid on November 29, 2023. The Company can complete the acquisition of EPCS by making the final instalment of CZK\$ 50 million (approximately \$2.92 million) due no later than December 31, 2023. The extension fee in the amendment is CZK\$ 1,000,000 (approximately \$60,000).

The shares of EPCS are being held in escrow pending release of the Final Payment by the Company. To secure the transaction, liens have been placed by the Company on the property and shares of EPCS, while the EPCS Option Agreement is in effect. The vendor of EPCS will continue to operate its steel fabrication business until the Final Payment is received, will retain profits from the business and will remain responsible for any losses incurred by the business during the term of the EPCS Option Agreement. The Company will endeavour to retrain and transition as many of the EPCS employees as possible into the proposed Chvaletice Manganese Project workforce.

- (ii) On February 7, 2019, the Company signed an amendment to the EPCS Option Agreement (the "**Amendment**"), funding, through EPCS, the purchase of several land parcels adjacent to the land owned by EPCS. These parcels fill small gaps in and around the proposed plant site lands owned by EPCS. Pursuant to the Amendment, in the event that EPCS is not ultimately acquired under the EPCS Option Agreement, the ownership of these land parcels will be transferred to Mangan at no additional cost. The cost of these additional parcels was CZK\$ 3,500,000 (\$203,220). The Company also signed a purchase contract with the Municipality of Trnavka for a 2.96-hectare parcel of land adjacent to the Chvaletice Manganese Project, on which the Company plans to construct a visual and acoustic barrier between Trnavka and the Chvaletice Manganese Project. The total amount of CZK\$ 2,026,990 (approximately \$120,000) will be paid in four instalments, conditional on the Final ESIA and permitting milestones over the period to 2029. To date, two payments, representing 25% of the total, CZK\$ 507,108 (\$28,905) have been paid.

During FY'21, the Company also acquired rights to three additional strategic parcels of land, which included:

- (i) Purchase on April 15, 2021, from Sev.en EC, a.s., the owner of the Chvaletice power plant, a 1,952 m² section of land encompassing Rail Spur no. 1, through which the proposed Chvaletice process plant will be serviced and connected to existing rail infrastructure. This acquisition, costing CZK\$ 252,762 (approximately \$14,000) is particularly important for the Chvaletice Manganese Project, as it provides the Company with a second rail connection through the existing rail siding of the neighbouring power plant. This is expected to provide greater logistical capacity and flexibility for the Project.
- (ii) Purchase from Sprava Nemovitosti Kirchdorfer CZ s.r.o. of a 49,971 m² parcel of land, including a rail spur extension that will provide additional room and flexibility for the Chvaletice commercial plant layout. The cost of the land is CZK\$18,739,125 (approximately \$1.1 million) and is to be paid in five annual instalments of approximately \$80,000, followed by the remaining balance of approximately \$700,000 in the final year. The first instalment was refundable, subject to a positive environmental due diligence of the site, which was obtained in January 2021. Thereafter, the Company has the option to terminate the contract after the third instalment. To October 2023, the Company has paid four annual instalments of approximately \$80,000 each.
- (iii) Leased from Galmet Trade, spol s.r.o. of a 3,504 m² right-of-way for a period of 30 years to allow the straightening of a proposed conveyor route. Annual rental is CZK\$ 60,000 (approximately \$3,000) and the Company retains an option to purchase this land.

The Chvaletice Manganese Project Feasibility Study

On July 27, 2022, the Company completed and reported the results of the Feasibility Study for the production of HPEMM and HPMSM from the Chvaletice Manganese Project. The Technical Report was released and filed on SEDAR on September 9, 2022, and the JORC Code technical report was lodged on the ASX announcement platform on September 14, 2022. See "*Chvaletice Manganese Project – 1.15 Economic Analysis.*" The highlights of the Feasibility Study are as presented below and are qualified in their entirety by reference to the Technical Report.

- Conversion of the Mineral Resource to a 26.6 million tonne Proven and Probable Reserve (98.3% Proven) with a grade averaging 7.41% Mn.
- Recycling of the historic tailings without the requirement of any hard rock mining, crushing or milling.
- 25-year project operating life producing 1.19 million tonnes of HPEMM, approximately two-thirds of which is expected to be converted into HPMSM, with the flexibility to supply either HPEMM or HPMSM, to suit customer preference.
- Saleable product includes 2.5 million tonnes of HPMSM (32.34% Mn) and 372,300 tonnes of HPEMM (99.9% Mn) over the life of project, averaging 98,600 tonnes of HPMSM and 14,890 tonnes of HPEMM annually, principally focused on Europe's rapidly growing EV battery industry.

- Base case after-tax NPV of US\$1.34 billion and pre-tax NPV of US\$1.75 billion, using an 8% real discount rate and risk-adjusted base case price forecast.
- Ungeared after-tax Internal IRR of 21.9% with a 4.1-year payback period; and an ungeared pre-tax IRR of 24.9% with a 3.6-year payback period.
- Initial capital ("**Capex**") of US\$757.3 million, including contingencies of US\$103.2 million (US\$78.4 million on direct costs and US\$24.8 million of growth capital).
- Sustaining capital ("**Sustaining Capex**") of US\$117.0 million over the 25-year life of project.
- Life of project revenues of US\$13.9 billion with gross revenues expected to average US\$554 million per year over the 25-year project life.
- Project earnings before interest, taxes, depreciation and amortization ("**EBITDA**") and annual average EBITDA forecasted to be US\$8.1 billion and US\$326 million respectively, averaging 58.8% EBITDA over the life of project.
- Base case project economics are based on Tetra Tech adoption of a risk-adjusted short-term price forecast that follows CPM Group's forecast for HPMSM and HPEMM to 2031 and then holds prices flat over the remaining life of project, resulting in average prices of \$4,019 per tonne of HPMSM containing 32.34% Mn and \$10,545/t of HPEMM containing 99.9% Mn.
- CPM Group's unaltered price forecast was used as the upside case in the Feasibility Study sensitivity analysis with average life of project prices of \$4,509/t for HPMSM and \$12,075/t for HPEMM.
- Using the upside CPM Group price forecast for HPMSM and HPEMM, after-tax NPV_{8%} increases to US\$1.79 Billion, with an ungeared IRR of 24.1%.
- Project has access to excellent transportation, energy and community infrastructure. Proposed process plant site to be located in an industrially-zoned brownfield site, where a historical process plant generated the Chvaletice tailings.
- Exceptional green project credentials with the Chvaletice Manganese Project design meeting or exceeding all Czech and European health, safety and environmental standards, resulting in a significant remediation of the Chvaletice tailings site, arresting the ongoing pollution related to historical mining activities.
- Sophisticated, stable and business-friendly European Union jurisdiction that is highly supportive of new and, especially, green investment.
- Opportunities exist to enhance returns through process optimization initiatives and various investment incentives that may be available through the Czech Republic and European Union.

EPCM Contract Award

During FY'23, the Company selected Wood as its EPCM partner for the Chvaletice Manganese Project following a rigorous selection process and based on cost of service as well as their proposed project

schedule, technical and engineering capability, EU experience, team skill set, and overall execution strategy. The EPCM contract was signed in July 2023.

The contract is cost reimbursable and is structured in two phases, with an approval stage gate between each phase as well as after the gap analysis in Phase 1, with an FID to be made prior to commencement of Phase 2. Receipt of FID from the Board requires securing outstanding permits and project finance.

The FEED phase includes an initial gap analysis and in-depth review of the Feasibility Study deliverables, including the test work and flowsheet development conducted by the Company over the last seven years. Other key deliverables to be derived over the remainder of Phase 1 include: completion of value engineering; identification of long-lead time equipment; vendor engagement, selection and firm pricing for major equipment items and packages; total installed capital cost estimate to AACE Class 3 estimate accuracy (+/- 10%); project implementation strategy; a baseline schedule for the EPCM phase; and preparation of construction permit documentation.

Upon making the FID decision, the Company will enter into the EPCM phase of the contract once conditions precedent are satisfied. Wood will provide overall project and construction management services throughout the EPCM phase of the Chvaletice Manganese Project, which includes detailed design, procurement, construction, and commissioning.

Permitting Update – Final Environmental and Social Impact Assessment

Documentation for the Chvaletice Manganese Project's Final ESIA was submitted to the Ministry in December 2022. In June 2023, the Ministry received comments from 14 relevant authorities, all but one of which approved the relevant studies. The Ministry returned the Final ESIA to the Company to address comments from the one authority, related to noise abatement.

While the Chvaletice Manganese Project's anticipated noise levels are within legislative limits for an industrial project, the cumulative effect when combined with neighbouring operations' existing noise emissions marginally exceeded permitted noise levels at the measurement points, located at the closest residential areas. The revision of the noise study within the Final ESIA also requested that the Company consider new noise legislation related to traffic noise which came into force in July 2023. The details of this new legislation were released after the Final ESIA was submitted in December 2022. The necessary work to address the comments related to noise was completed and the revised Final ESIA was submitted in October 2023. The Company anticipates the issuance of a positive decision on the revised Final ESIA early in calendar 2024.

Upon approval of the Final ESIA, the Land Planning Permit can be submitted. The documentation for this application is substantially complete and will be finalized upon receipt of the conditions in the approved Final ESIA. The Land Planning Permit approval timeline is typically three months once submitted, resulting in an anticipated approval by early calendar Q2 2024. The Construction Permit documentation is a deliverable of the FEED phase of the EPCM work with an expected permit approval timeline of approximately three months post submission, resulting in an anticipated approval in late 2024 or early 2025, subject to securing sufficient funds for the completion of FEED Phase 1.

Demonstration Plant and Commercial Activities

The Demonstration Plant is intended to produce and deliver high-purity manganese products to prospective customers for testing and qualification. The Demonstration Plant replicates the process flowsheet used in the Feasibility Study and has been designed as a semi-batch, manually operated system

of interconnected modules that can be utilized as a circuit or as stand-alone components. The Demonstration Plant will also enable process optimization and testing for final product development and serve as a testing and training facility for future operators. It is expected to operate for up to three years and will also be available for testing of additional feedstock for the commercial plant.

HPEMM at 99.9% purity was produced from the Demonstration Plant in the second quarter of calendar 2023 and external laboratory testing confirmed that the first sample met its target specifications. Corrosion inside the crystallizer due to a manufacturing fault resulted in delayed production of on-spec HPMSM material. This issue was subsequently addressed and HPMSM was successfully produced from third party metal with similar specifications to HPEMM from the Demonstration Plant. HPEMM from the Chvaletice Demonstration Plant will be used to complete the commissioning in early 2024. Deliveries of HPEMM and HPMSM samples to potential customers are expected to commence thereafter. Customer deliveries of the Demonstration Plant products, however, are not expected to be required for completion of offtake contracts.

The estimated cost of the Demonstration Plant, including fabrication, delivery, commissioning, laboratory set-up and an operator training program, as well as the cost of its operation for one year, will be approximately US\$6.5 million (\$8.7 million). To the date of this AIF, the Company made total payments of US\$1.8 million (\$2.2 million) for the Demonstration Plant, accrued \$0.9 million for the next milestone payments, and incurred additional expenses of \$4.5 million for permitting, site preparation and commissioning.

In March 2023, the European Commission published the European Critical Raw Materials Act ("**CRMA**"), classifying battery-grade manganese as a strategic raw material and outlining targets for extraction, processing and recycling of critical raw materials within the European Union. Specifically, to reduce the European Union's reliance on a single supply country for certain raw materials, the CRMA would require that, by 2030, no more than 65% of any strategic raw materials come from a single third country. The Chvaletice Project expects to deliver almost 50,000 tonnes of high-purity manganese metal per year when in full production, meeting approximately 25% of European demand and helping the EU reduce its trade reliance on this strategic raw material. In addition, the US Department of Treasury published a clarification to the Inflation Reduction Act on how manufacturers may satisfy the critical mineral and battery component requirements of the clean vehicle tax credit. Specifically, beginning in 2025, an eligible clean vehicle may not contain any critical minerals that were extracted, processed, or recycled by a foreign entity of concern.

The above announcements triggered a noticeable change in dynamics with potential customers, with off-takers reaching out proactively, and a growing acknowledgement of price premiums for western extracted and processed products. This has resulted in the off-take tender process initiated by the Company having more than 200,000 tonnes of Chvaletice HPMSM (over 100% of annual production capacity) under discussion as part of the process. Discussions are progressing with potential customers across the battery supply chain, including cathode active material ("**CAM**") and the precursor product ("**pCAM**") producers, battery makers and automobile manufacturers. In addition, several larger potential customers are yet to provide an allocation of tonnage to the Company but have expressed an expectation to do so.

In January 2023, the Company signed a non-binding term sheet with Verkor, a low-carbon battery manufacturer based in Grenoble, France, for the sale of HPMSM from the Project. The Company expects to enter into a binding offtake agreement with Verkor in calendar 2024 and it anticipates more term sheets and agreements will follow in the near term. The Company is targeting 80% of production capacity under offtake contract to support project finance. There can be no assurance, however, that current discussions will lead to offtake agreements or commercial or strategic relationships in the near term, if at all.

Bécancour Plant

In response to encouraging discussions with automotive OEMs, battery and cathode manufacturers seeking to procure local, responsibly produced high-purity manganese in North America, the Company commenced work on a North American growth strategy. The Company selected a site at the Port of Bécancour, Québec, which is emerging as an important hub for the supply of low-carbon battery materials to the EV supply chain in North America due to its numerous advantages, including a year-round deep-water port, extensive road and rail infrastructure, access to low-cost hydro-electric power, strong governmental support, sophisticated local service, equipment and reagent suppliers, and a qualified work force.

The Company entered into the Bécancour Option Agreement with SPIPB, owner of a 15-hectare land parcel where the Company proposes to establish its North American facilities. The Bécancour Option Agreement allows the Company to exclusively access the land parcel and conduct due diligence thereon over a maximum term of 21 months, during which the Company has the opportunity to purchase the site. The Bécancour Option Agreement provides that the Company pay \$45,855 per month, starting January 2023, which will be deducted from the final purchase price of \$9,171,200 should the Company exercise the option.

The site of the Bécancour Plant is strategically located adjacent to a cluster of planned CAM manufacturing plants, including GM/Posco and BASF. Québec also offers attractive government financial support programs that may provide incentives for the construction of the dissolution plant. The Company is currently exploring these incentives with the relevant agencies.

In late 2022, the Company engaged AtkinsRéalis (formerly SNC-Lavalin Inc.), a global engineering services company and having extensive knowledge of the area, to conduct site due diligence and advise on permitting processes. In parallel, the Company commissioned Ausenco Engineering Canada Inc., a global engineering consultancy firm with expertise in battery metals, to conduct a scoping study for the dissolution plant, leveraging the extensive process development and recent engineering work from the Chvalétice Manganese Project. The Bécancour Plant scoping study was based on a dissolution plant capable of producing 48,500 tpa of battery-grade HPMSM, which could meet up to 20% of projected North American 2027 demand. The demand for North American HPMSM is forecast by CPM Group to rise to approximately 250,000 tpa in 2027 and over 800,000 tpa by 2031. There is no current processing capacity or production of battery-grade manganese in North America.

The scoping study delivered strong preliminary project economics, with a post-tax NPV of \$190 million using an 8% discount rate, a post-tax IRR of 26%, and a payback period of approximately 4 years. The economic analysis was run on a constant dollar basis with no inflation, no government grants, and was unlevered. Initial capital was estimated at \$110.8 million (AAACE class 5 estimate +50%/-30% accuracy), including contingencies of \$15.1 million. A key aspect of the dissolution plant is a short build time, estimated by the study to be approximately a two-year engineering/construction duration.

The plant design allows for production of both HPMSM and high-purity manganese sulphate solution ("HPMSS"), allowing for customer offtake flexibility. Producing HPMSS provides both cost and environmental benefits, as an HPMSS product could be pumped as a solution to nearby pCAM manufacturers, which eliminates the need to crystallize, dry and package a powdered HPMSM product. HPMSM is ultimately dissolved in water by pCAM plants, therefore delivering a solution saves costs for both parties, reduces water consumption and CO2 emissions.

Minimal infrastructure improvements are required to build the Bécancour Plant. Offsite infrastructure is limited to a power line connection from the main Bécancour power distribution network and the potential construction of a railway spur from the Bécancour site railway line. Onsite infrastructure includes roads, plant and administrative buildings, power distribution and storage buildings for HPEMM feedstock and HPMSS/HPMSM products. Feedstock optionality via a third-party metal supply was modeled. This may facilitate operation of the Bécancour Plant as early as mid-2027, ahead of the Chvaletice Project, bringing projected cash flows for the Company forward by at least a year. This projected timeline and feedstock mix will be assessed as key outputs of the Bécancour Plant feasibility study, which is subject to financing.

The Company has selected WSP to complete a feasibility study for the Bécancour Plant which would further refine Plant design, costs, economics, and customer off-take opportunities. Permitting is expected to advance in parallel with the feasibility study.

A number of general assumptions were used in the Scoping Study to assess the economics of constructing and operating the Bécancour Plant. As such, the outcomes and economic metrics have a margin of error of -30%/+50%. Metal prices were based on market analysts' long-term forecasts and an exchange rate of US\$0.77 per C\$1.00. Forward escalation and contingencies for scope changes and associated costs were not considered and cost estimates are based on Q4 2022 pricing without allowances for inflation.

The Company cautions that the Bécancour Plant scoping study does not constitute a scoping study within the definition used by the Canadian Institute of Mining, Metallurgy and Petroleum ("CIM"), as it relates to a standalone industrial project and does not concern a mineral project of the Company. As a result, disclosure standards prescribed by NI 43-101 are not applicable to the scientific and technical disclosure in the study. Any references to scoping study or feasibility study in relation to the Bécancour Plant are not the same as terms defined by the CIM Definition Standards and used in NI 43-101.

Subsequent to quarter-end, the Company signed a cooperation agreement with the Grand Council of the W8banaki, a tribal council consisting of the Abenaki Bands of Odanak and Wôlinak, on whose ancestral territory the Bécancour Plant would be situated. The agreement outlines how the Company and the W8banaki intend to communicate openly and regularly, and work together for the mutually acceptable development of the Bécancour Plant, especially during the evaluation and planning phases.

The Company also signed an MoU with MMC, a South African producer of HPEMM, to supply the Bécancour Plant with selenium-free, 99.9% pure HPEMM. The MoU provides feedstock optionality for the Bécancour Plant, allowing it to be fed with HPEMM from MMC and/or with HPEMM from the Chvaletice Manganese Project. The MoU is strategically significant for the Company as it enables the potential acceleration of the Bécancour Plant to supply the North American market possibly as early as mid-2027. Both parties intend to work together in good faith to conclude a definitive agreement.

Specialized Skill and Knowledge

At the current stage of the Company's development, the nature of its business requires specialized skills, knowledge and technical expertise. Such skills and knowledge currently include the areas of geology, management, exploration and development programs, finance and accounting, law, engineering, mineral processing, project management, and environmental management and compliance. In addition to the specialized skills listed above, the Company relies on staff members, contractors and consultants with specialized knowledge of logistics and operations in the Czech Republic and local community relations. In order to attract and retain personnel with the specialized skills and knowledge required for the Company's operations, the Company maintains competitive remuneration and compensation packages. To date, the Company has been able to meet its staffing requirements.

Competition

The Company competes with other exploration and development companies for the acquisition of mineral claims and other mineral interests, as well as for the recruitment and retention of qualified employees or consultants with the technical expertise to find, develop and operate such properties. Competition in the mining, mineral processing and waste re-processing industry is intense, and includes competition for technical expertise and for capital to fund evaluation and development projects. Further, the Company competes for markets for its proposed manganese products with companies that may be better funded, have lower production costs, have stronger relationships with consumers of manganese and which are better capable of securing access to markets for their competing manganese products. Such competition may result in the Company being unable to acquire or develop desired properties, to recruit or retain qualified employees and consultants or to attract the capital necessary to fund its operations and develop its properties. The Company's inability to compete with other companies for these resources could have a material adverse effect on its business, financial condition, results of operations, cash flows or prospects. See "*Risk Factors – Competition*".

Employees

As at the end of the most recent financial year, being September 30, 2023, the Company and its subsidiaries employed a total of 45 employees, including five executive officers, three of whom were located in Vancouver, Canada, one of which is located in each of the United Kingdom and the Czech Republic. The Company also employs consultants on an as-needed basis.

Environmental Protection

All phases of the Company's operations are subject to environmental regulation. Environmental legislation is evolving in a manner which requires increasingly strict standards and enforcement, increased fines and penalties for non-compliance, more stringent environmental assessments of proposed projects and a heightened degree of responsibility for corporations and their officers, directors and employees. There is no assurance that future changes in environmental regulation, if any, will not adversely affect the Company's operations, including its ability to develop the Chvaletice Manganese Project, capital and operating expenditures, earnings and competitive position.

As further outlined in the Technical Report, the area covered by the Chvaletice Manganese Project tailings has been significantly impacted by past mining and other heavy industrial activities. Czech law exempts landowners and developers from impacts prior to 1989. Mining activity at the Chvaletice Manganese Project predates 1975. The Company is, however, responsible for any new disturbances and impacts that it may cause.

On June 30, 2020, following the completion of the environmental baseline and impact studies and consultations with local communities and stakeholders, the Company filed its Preliminary EIA and Project Description with the Ministry triggering the environmental permitting process for the Chvaletice Manganese Project. The Project Description included: a description of the manganese production process and resulting environmental footprint; results of baseline and other studies conducted to date; health, safety and environmental management plans; impact assessment, impact mitigation and avoidance plans and measures; socio-economic impacts on local communities; and reclamation plans and objectives. The Preliminary EIA included several expert independent studies which were distributed to various local and national authorities as well as three surrounding municipalities for comment. The studies indicated that, on balance, the Chvaletice Manganese Project is expected to be positive for the environment, local residents and the Czech Republic. A key associated benefit of the Chvaletice Manganese Project is that it will result in the rehabilitation, restoration and reclamation of a polluted site through the implementation of high environmental standards and engineering practices.

In January 2021, the Company received the comments from the Ministry on the Preliminary EIA and the Project Description. The input and comments received formed the basis for the Final ESIA which was submitted to the Ministry in December 2022. Based on comments related to noise abatement, received by one of fourteen relevant authorities, the Ministry returned the Final ESIA to the Company. The necessary work to address the comments related to noise was completed and the revised Final ESIA was submitted in October 2023. The Company anticipates the issuance of a positive decision on the revised Final ESIA in early calendar Q1 2024... See "*Chvaletice Manganese Project – Permitting Update*".

As part of the Company's commitment to environmental excellence and transparency, the Company engaged Minviro Ltd. ("**Minviro**"), a UK-based and globally recognized sustainability and life cycle assessment consultancy, and RCS Global Ltd. ("**RCS Global**"), a leading global auditor of battery material supply chains, to conduct a cradle-to-gate Life Cycle Assessment study of the global warming potential ("**GWP**" or "**carbon footprint**") of HPEMM and HPMSM to be produced at the Chvaletice Manganese Project, and also compared those results with those produced by the incumbent industry in China – where currently 95% of global high-purity manganese products are processed. Highlights of the study reported that: the GWP of HPEMM produced at the Chvaletice Manganese Project, using 100% renewable power, is 64% lower than the estimated GWP of HPEMM produced by the incumbent industry; HPMSM produced via electrolytic manganese metal dissolution has a carbon footprint 59% lower at the Chvaletice Manganese Project compared to HPMSM produced in China; and that the Chvaletice Manganese Project's high-purity manganese metal and sulphate have significantly lower carbon footprints compared to nickel and cobalt, the other NMC battery cathode metals.

Czech Republic

The Chvaletice Manganese Project is located in the Czech Republic, a member country of the European Union ("**EU**"). The official language of the Czech Republic is Czech, and the currency is the Czech koruna. The Czech Republic split from Slovakia in January 1993 and is now a stable, modern democracy with a free market economy. Mineral exploration activity in the Czech Republic has increased recently, driven largely by a search for battery making raw materials such as lithium and cobalt.

Through local laws, regulations and standards, which have been harmonized with those that prevail in the EU, the country has robust environmental regulations and a well-informed and engaged population that cares about the health of its environment and the diversity of its ecosystems. The Czech Republic also has a highly-educated, skilled and productive workforce capable of supporting a multitude of technologically advanced industries.

Corporate income in the Czech Republic applicable to the profits generated by all companies, including branches of foreign companies, will be increasing from a tax rate of 19% to 21% effective January 1, 2024. Czech resident companies are required to pay corporate income tax on income derived from worldwide sources and non-resident companies are subject to taxation on income sourced in the Czech Republic. There are no regional or local income taxes in the Czech Republic. Additionally, Czech companies are required to withhold tax on payments of dividends to non-residents in the amount of 15%, unless the recipient is a company that owns at least a certain amount of the capital or a certain amount of the voting shares of the company paying the dividend directly, such as Euro Manganese, in which case the withholding is reduced to 5%. The Czech Republic imposes royalties on the extraction of minerals, and the rate currently applicable for manganese is CZK\$ 2,308.43 (approximately \$138) per tonne of manganese sold.

Mangan intends to apply to the Czech Ministry of Industry and Trade for certain investment incentives available under current Czech tax legislation. These investment incentives, in the form of corporate income tax credits related to eligible Chvaletice Manganese Project assets acquired by Mangan, would be over and above the normal tax depreciation on such eligible assets, and would be applied toward Czech corporate income taxes otherwise payable by Mangan on earnings, if any, generated by the Chvaletice Manganese Project in the future.

The Chvaletice Manganese Project is located approximately 90 kilometers east of the country's capital, Prague, in an area served by excellent infrastructure. The site has direct access to rail, road and a navigable river for transportation. It is also immediately adjacent to an 820-megawatt power station - an important node in the Czech national power grid - that could potentially provide the Chvaletice Manganese Project with direct and efficient access to competitively priced electrical power. The surrounding region is agrarian, yet industrialized, and a skilled workforce is available in the local market. In addition to the adjacent power station, within a radius of five kilometers of the Chvaletice Manganese Project site are two rock quarries, an industrial and municipal waste disposal site, metal and pre-cast concrete fabrication facilities, warehousing facilities, a plastic pipe manufacturer, a steel foundry and a ready-mix concrete plant. A commuter train trip from Prague to the nearby village of Chvaletice takes approximately one hour.

Despite the attractiveness of the Chvaletice Manganese Project being located in the Czech Republic, its activities are subject to the risks normally associated with the conduct of business in foreign countries. See "*Risk Factors – Country Risks*". The occurrence of one or more of these risks could have a material and adverse effect on the Company's profitability or the viability of its affected foreign operations, which could have a material and adverse effect on the Company's business viability, results of operations, financial condition and prospects.

Social or Environmental Policies

The Company emphasizes a safe and secure working environment for all of its employees, contractors and consultants, and recognizes the importance of operating in a sustainable manner. The Company has adopted a Code of Ethics and Business Conduct (the "**Code**"), which sets out the standards which guide the conduct of its business and the behavior of its directors, officers, employees and consultants. All new employees must read and acknowledge that they will abide by the Code. The Code, among other things, sets out standards in areas relating to the Company's: commitment to health and safety in its business operations; compliance with applicable occupational health and safety laws and regulations; promoting and providing a work environment in which individuals are treated with respect, and is free of all forms of discrimination and abusive and harassing conduct; providing employees with equal opportunity; and ethical business conduct and legal compliance.

The Code also requires the Company to conduct its exploration, development and mining operations using environmental best practices with a goal of protecting human health, minimizing impact on the ecosystem and returning exploration and mining sites to a high environmental standard, and always in compliance with all applicable environmental laws and regulations. Further, the Code requires that the Company conduct its operations with a view to respecting and enhancing the economic and social situations of the communities in which the Company operates. In November 2023, the Company also adopted an Anti-Bribery and Corruption Policy to ensure its corporate culture actively discourages corrupt conduct in the strongest possible terms. The Company has a zero tolerance for bribery and corruption in any form. The Company expects everyone who works for or with the Company to comply with both the letter and spirit of all applicable anti-bribery and corruption laws and regulations that govern the Company and also comply with the Company's other policies, including the Code, the Supplier Code of Conduct (the "**Supplier Code**"), and the Anti-Bribery and Corruption Policy when acting on behalf of the Company.

The Company aims for high standards within sustainability and is committed to ensuring that its Code is economically, environmentally, and socially sustainable. The Company's stakeholders and prospective customers it intends to supply products to expect this of the Company and, in turn, the Company asks that the conduct of its suppliers follow the same standards. Accordingly, the Company has adopted a Supplier Code which outlines the minimum standards which the Company asks its suppliers to follow. Suppliers should have appropriate business and quality management systems and procedures in place to enable adherence to this Supplier Code or its own equivalent code of conduct.

The Supplier Code addresses the following areas: the requirement to conduct business in an ethical and fair manner and to operate in compliance with applicable laws, regulations and rules; the requirement to comply with all applicable laws, regulations, rules and permits in relation to environmental matters; the requirement to comply with all applicable occupational health and safety laws and regulations and provide its employees with a safe and healthy working environment; the requirement to comply with all laws and regulations applicable to working conditions and labour standards, respect human rights and not be complicit in violating human rights; and the requirement to embrace diversity and ensure fair and equal treatment of all employees irrespective of race, sex, color, religion, sexual orientation, national origin, disability or age.

The Company's subsidiary, Mangan, has established a grievance procedure that sets out the process of receiving grievances from stakeholders external to the Company. Additionally, the Company has also adopted a whistleblowing policy (the "**Whistleblower Policy**") wherein employees and consultants of the Company are provided with the mechanics by which they may raise concerns with respect to falsification of financial records, unethical conduct, harassment, theft, and violation of the Code, or any other "wrong-doing" in a confidential, anonymous process. The Whistleblower Policy provides employees and contractors with information regarding who to contact with a complaint, how the Company will respond to a complaint, and timeframes for the Company to respond. The Company will respect the confidentiality of any whistle blowing complaint received by the Company where the complainant requests that confidentiality.

Chvaletice Manganese Project

The Chvaletice Manganese Project is the Company's only material mineral property. Please refer to the Technical Report filed on the Company's SEDAR+ profile, for detailed disclosure relating to:

- Project Description and Location;
- History;
- Geological Setting and Mineralization
- Deposit Types;
- Exploration;
- Drilling;
- Sampling Preparation, Analyses and Security;
- Data Verification;
- Mineral Processing and Metallurgical Testing;
- Mineral Resource Estimates;
- Proposed Extraction Methods;
- Proposed Processing and Recovery Operations;
- Infrastructure, Permitting and Compliance Activities; and
- Capital and Operating Costs.

The following is the extracted summary section from the Technical Report prepared by Mr. James Barr, P. Geo, Senior Geologist, Mr. Jianhui (John) Huang, Ph.D., P. Eng., Senior Metallurgical Engineer, Mr. Hassan Ghaffari, P. Eng., M.A.Sc., Senior Process Engineer, Mr. Chris Johns, P. Eng., Senior Geotechnical Engineer, and Mrs. Maureen Marks, P. Eng., Senior Mining Engineer, all of Tetra Tech and each of whom are "qualified persons" under NI 43-101, and is subject to any updated information contained elsewhere in this AIF. The Technical Report is incorporated by reference herein and for full technical details, reference should be made to the complete text of the Technical Report.

The following summary does not purport to be a complete summary of the Chvaletice Manganese Project and is subject to all the assumptions, qualifications and procedures set out in the Technical Report and is qualified in its entirety with reference to the full text of the Technical Report. Readers should read this summary in conjunction with the Technical Report.

Summary

1.1 Introduction

The Chvaletice Manganese Project (CMP) is located in the western area of the Pardubice region of the Czech Republic, approximately 89km by road east of Prague, on the southern shore of the Labe River (Figure 1-1). Euro Manganese Inc. and its wholly-owned subsidiary, Mangan Chvaletice s.r.o (Mangan) (collectively referred in this Technical Report as 'EMN', or the 'Company') plans to reprocess fine-grained tailings material for production of high-purity, selenium (Se)-free, 99.9% electrolytic manganese metal (HPEMM) and high-purity manganese sulphate monohydrate (HPMSM), at a hydrometallurgical refinery located adjacent to the tailings cells. The tailings were deposited into three separate above-ground tailings cells, referred to as Cell #1, Cell #2, and Cell #3, from historical mining and processing activities.

EMN retained Tetra Tech Canada Inc. (Tetra Tech) to prepare a Technical Report and Feasibility Study (FS) based on the data generated from work completed on the CMP by EMN to date. This FS report has been prepared in accordance with National Instrument 43-101 (NI 43-101) guidelines and following

Canadian Institute for Mining, Metallurgy, and Petroleum (CIM) Best Practices. The effective date for this report is July 27, 2022.

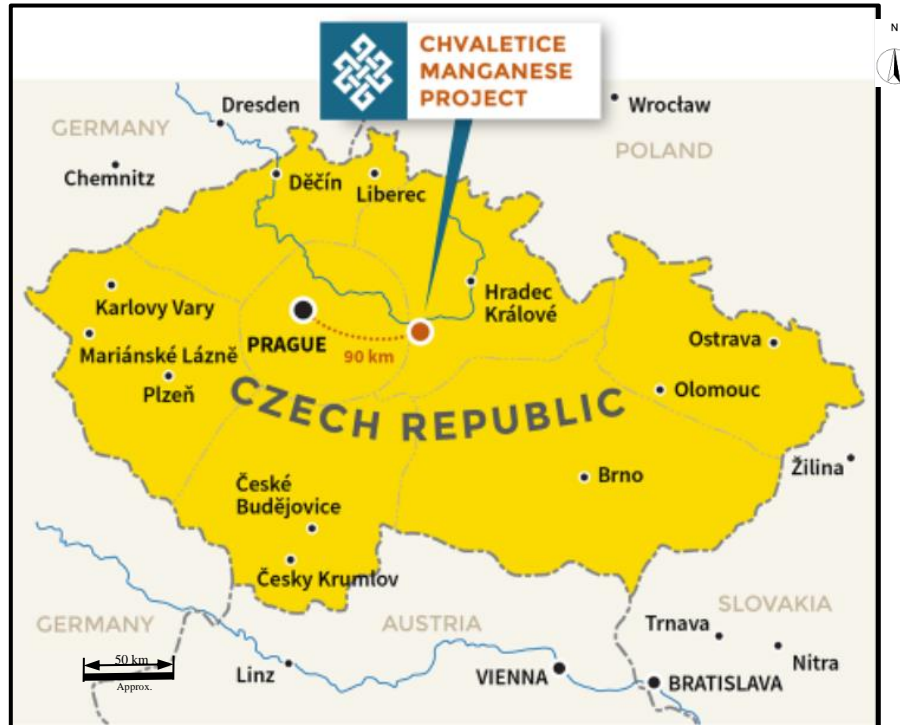
1.2 Property Description and Location

The Chvaletice Property (the Property) is the subject of two exploration licences, numbered 631/550/14-Hd and MZP/2018/550/386-Hd (together the Exploration Licences) and a Preliminary Mining Permit, numbered MZP/2021/550/768-Hd, which is registered to include mineral rights over an area of 0.98 km² (the Protected Area, covering approximately 98 ha and encompassing all three tailings cells) (Figure 1-2). The Preliminary Mining Permit is a precursor to applying for a Mining Permit and grants EMN the right to conduct an environmental impact assessment (EIA).

The Exploration Licences and the Preliminary Mining Permit are held by Mangan (a private Czech company) that was repurposed in 2014, as a partnership between GET s.r.o. (GET), Geomin s.r.o. (Geomin), and Orex Consultants s.r.o. (Orex). Today, EMN owns 100% of Mangan. Terms of the purchase agreement dated May 2016 included a transfer of the exploration licence, number 631/550/14-Hd, from GET to Mangan and the purchase of 100% of Mangan by EMN. The original exploration licence number 631/550/14-Hd was originally valid until September 30, 2019, this licence was originally extended on December 4, 2018, to May 31, 2023 (extension reference MZP/2018/550/1484-Hd) and then extended again on July 2, 2021 to May 31, 2026 (extension reference MZP/2021/550/698-Hd). On May 4, 2018, the Czech Ministry of Environment (MoE) issued Mangan an additional exploration licence, MZP/2018/550/386-Hd, allowing it to drill the slopes on the perimeter of the tailings cells. The additional exploration license became effective May 23, 2018, and was originally valid until May 31, 2023, but was extended on July 2, 2021, to May 31, 2026 (extension reference MZP/2021/550/698-Hd). Three net smelter royalty (NSR) agreements, having an aggregate NSR of 1.2%, were held by the three original shareholders of Mangan. The NSR agreements were granted as part of the purchase transaction by EMN for 100% ownership of Mangan. On May 31, 2021, EMN entered into termination agreements with each of the three shareholders, and on January 31, 2022, terminated the royalty agreements in full through the issuance of shares and an aggregate payment of US\$1,800,000.

On April 17, 2018, with effect from April 28, 2018, Mangan was issued a Preliminary Mining Permit by the MoE, Licence No. MZP/2018/550/387-HD and referred to by the MoE as the prior consent with the establishment of the Mining Lease District (the Preliminary Mining Permit). The Preliminary Mining Permit was valid until April 30, 2023, and covered the areas included in the Exploration Licences and secures Mangan's rights for the entire deposit area. On July 20, 2021, Mangan was issued a new Preliminary Mining Permit, Licence No. MZP/2021/550/768-Hd, valid until May 31, 2026, which replaces the original Preliminary Mining Permit.

Figure 1-1: Location of the Chvaletice Manganese Project



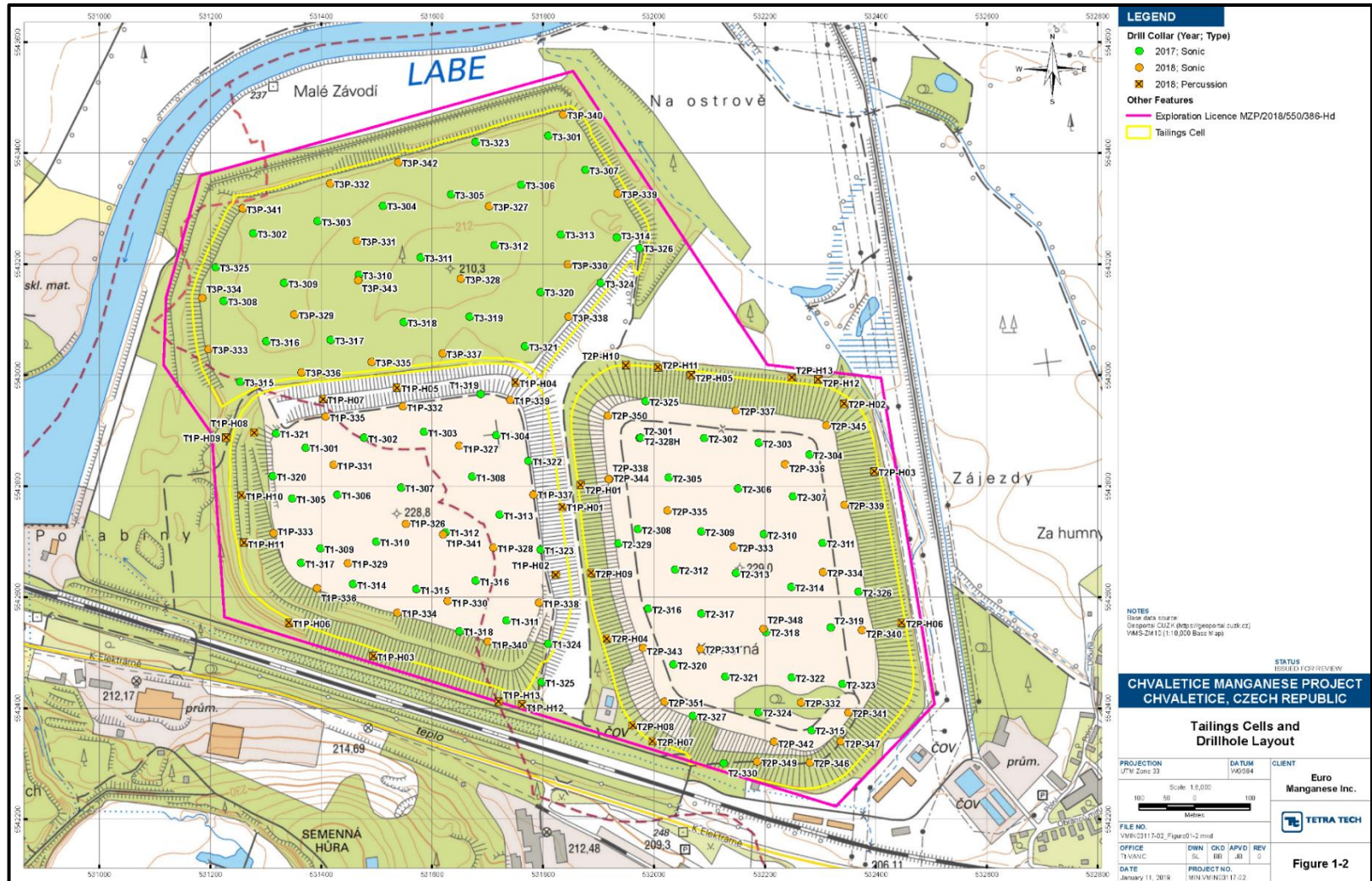
Infrastructure in the vicinity of and accessible to the CMP includes highways, a major rail corridor, a navigable river, water supply, a natural gas line, an 820 MW coal-fired power station, a pre-cast concrete plant, an asphalt plant, and a newly constructed cast iron foundry.

The region surrounding the CMP is rural, yet quite industrialized. Within 25 km of the CMP one can find several automotive plants, chemical plants, metal fabricators, and numerous heavy and light industrial facilities. A significant skilled and trainable labour workforce is accessible in the nearby communities, including the villages of Chvaletice (population of 3,200) and Trnavka (population 250) and the nearby towns and cities of Kutna Hora (population 21,000), Kolin (population 31,000), Pardubice (population 89,000), Hradec Kralove (population 93,000), and Prague (population 1,200,000).

Mining supplies, equipment, services, and technical expertise can be found mainly in Ostrava, Prague, and Pardubice.

At present, Mangan does not hold surface rights to the whole of the CMP area, which is considered as those lands of original ground elevation surrounding and those parcels of original ground underlying and immediately surrounding Cells #1, #2, and #3. The area of interest for the CMP overlies 16 privately owned land parcels with surface rights. To date, Mangan received the consent to conduct exploration activities and to access the site from the landowners whose surface properties underlie the tailings.

Figure 1-2: CMP Tailings Cells: 2017 and 2018 Drill Hole Layout



Adjacent to the tailings area, EMN has a contract to purchase a 2.96 ha parcel of land (signed May 11, 2019) with the Municipality of Trnavka on which the Company plans to construct a visual and acoustic barrier between Trnavka and the Chvaletice Manganese Project tailings as well as a utility corridor. The Village of Trnavka formally approved rezoning of the land underlying approximately 85% of the tailings deposit area. The remaining area of the underlying land falls under the authority of the Municipality of Chvaletice, which lies just to the west of the Project. The Municipality of Chvaletice previously voted unanimously to approve the initiation of the rezoning process under its municipal land use plans. This process is progressing, and Mangan anticipates the rezoning of the Chvaletice land underlying the Project's tailings deposit to be formally approved for mining in the first half calendar 2023.

Additionally, a land package totalling 7.2 ha located on the northern-eastern portion of the tailings area has a purchase agreement (dated June 7, 2022) with the company Helot (owned by the Vanek family farmer) which will be used as the started area for the residue storage facility (RSF). This land purchase agreement provides additional room and flexibility for the CMP residue storage facility layout.

On June 6, 2022, Mangan also signed a lease agreement with the Municipality of Chvaletice for a total area of 26.6 ha, which represents approximately 19% of the total land area required for the Project and approximately 15% of the total tailings area. The lease agreement grants Mangan access to this surface area until the earlier of a 40-year period or upon remediation of the land. Mangan continues to negotiate the acquisition of the balance of the surface rights with the remaining two landowners.

An aggregated parcel of land located immediately to the south and across the highway from the tailings deposit comprising a total 27.19 ha is proposed for development and construction of a high-purity manganese processing facility and related infrastructure. The land purchase and agreement includes 19.94 ha of industrial zoned land in option agreement with EP Chvaletice s.r.o (signed October 17, 2018), a 1.7 ha parcel of land purchased by EMN (dated November 2017), a 5.0 ha parcel of land including a rail spur extension in agreement with Sprava Nemovitosti Kirchdorfer CZ s.r.o (signed December 18, 2020), a 0.2 ha section of land encompassing Rail Spur no. 1 purchased from Sev.en EC, a.s., the owner of the Chvaletice power plant, and a 0.35 ha right-of-way for a period of 30 years in lease agreement with Galmet Trade, spol s.r.o. as an option for a proposed conveyor route. As a result of these agreements, Mangan has completed its land assembly for the proposed Chvaletice commercial plant.

EMN had initiated planning and preparation of the CMP's permit application since 2016. The EIA Notification for the Project was published by the MoE in December 2020. The conclusions of the EIA screening procedure did not result in any unexpected requirements.

The second and final stage of the Project's Environmental and Social Impact Assessment ("ESIA") is under preparation and is expected to be submitted to the Czech MoE in September 2022.

1.3 History

Historical mining in the region dates back to approximately 677 AD through to medieval times according to records of iron (Fe) production from small local mines. Intermittent mining for iron in the region continued through until the mid-19th Century, when iron and manganese (Mn) minerals near Chvaletice were discovered. Systematic underground mining within the Chvaletice Mine produced manganese ore between the years 1915 and 1945. Thereafter, from 1951 to 1975, open pit mining and milling operations occurred for the recovery of pyrite as the raw material for the production of sulphuric acid and gave rise to the three adjacent CMP tailings deposits. Conversion from underground to bulk tonnage open pit mining occurred during this period, during which time an estimated 32 Mt of material was mined for pyrite, with approximately 20 Mm³ of waste rock along with

approximately 17 Mm³ of flotation waste, which were placed into the unlined tailing ponds. These tailings ponds are the target of the CMP and are referred to as Cells #1, # 2, and #3. Mining, milling, and production of tailings material was terminated in 1975.

An extensive evaluation of the tailings material was conducted between April 1986 and July 1988 by Bateria Slany, the former Czechoslovakian, state-owned manufacturer of batteries, for the potential manufacture of electrolytic manganese dioxide (EMD). The results from their investigation included a “reserve calculation”, currently registered as the “Řečany – Tailings Pond 3” and “Chvaletice – Tailings Ponds 1, 2” as a “State Reserve” with the Czech Republic Government. This historical calculation comprised 27,557,441 t of “reserves”, containing 25,496,299 t at a grade of 5.15% leachable manganese (7.06% total manganese [tMn]) at a “C2” category, and 2,061,143 t of material average grade of 4.97% of leachable manganese (7.39% tMn) at a “C1” category. The definition of C2 and C1 categories references a system developed in the Union of Soviet Socialist Republics (USSR) for classification of mineral “resources” and “reserves”, where resources classified as C1 are supported in greater detail than those that are classified as C2. The Czech system differs significantly from the classification system defined under the CIM Terms and Definitions as referenced by NI 43-101 and cannot be misconstrued to imply a similar level of confidence. This historical calculation cannot be relied upon as being accurate, particularly since the raw data that served as the basis for these calculations has not been found by EMN, as it appears to have been lost or destroyed following the end of Communism in the Czech Republic.

1.4 Mineral Resources

Based on work conducted by EMN under the supervision of Tetra Tech, the three tailings cells are estimated to contain approximately 18.6 Mm³ of material, with approximately 17.8 Mm³ comprised of silt and clay sized particulate tailings material. The remaining estimated 0.8 Mm³ is native soils that were used for dam construction, erosion and dust control, and slope stabilization. Cell #1 averages approximately 26.6 m thick, with a surface area of approximately 326,400 m², and has a volume of approximately 6,720,300 m³. Cell #2 averages approximately 28.7 m thick, with a surface area of approximately 393,200 m², and has a volume of approximately 8,035,200 m³. Cell #3 averages approximately 11 m thick, with a surface area of approximately 313,200 m², and has a volume of approximately 3,035,900 m³.

EMN began recent exploration activity on the Property in 2014, when a series of near surface samples were collected from auger holes and test pits for preliminary materials characterization. In June 2017, EMN initiated an 80-hole sonic drilling campaign totaling 1,679.3 m within Cells #1, #2, and #3 to evaluate the mineral resource potential both horizontally and vertically through the full tailings profile, referred to as the 2017 Drilling Program. Drill hole spacing was approximately 100 m throughout each cell. The perimeter embankments of each cell were not safely accessible to the sonic drill rig and were not drilled. To verify the composition of the embankments, four additional drill holes were collared on access ramps. Each drill hole intersected a layer of topsoil with average thickness of approximately 1 m, manganese bearing tailings material, and terminated in native basal soils at elevations consistent with other drill holes. During the summer of 2018, EMN conducted a second campaign of drilling at the CMP with a total of 80 drill holes, totalling 1,509.5 m. The program included completion of 35 vertical and 19 inclined 100 mm diameter sonic holes, totalling 1,409.5 m. An additional 26 mobile percussion drill holes, totalling 100 m, were completed around the perimeter embankments of the tailings piles in areas which were not previously accessed for sampling. The tailings material observed, sampled, and analyzed was generally very consistent in terms of total and soluble manganese grade and mineralogy. There has been no additional drilling or tailings investigations programs completed since 2018.

Information collected during these investigations is available for the purposes of mineralogy, hydrological, geotechnical, metallurgical, environmental, and process engineering design.

Samples were collected on intervals ranging from 0.925 to 4.1 m with the majority of samples and average length representative of the 2 m core runs. Each sample was logged for lithology, moisture content, particle size, wet mass, and recovery in the field. A total of 1,484 samples were split in the field longitudinally along the core. In 2017, a 25% sub-sample split of each sample was shipped to SGS Minerals Services (SGS) laboratories in Bor, Serbia, for analysis and test work. The remaining 75% sub-sample was shipped to Changsha Research Institute of Mining and Metallurgy Co. Ltd. (CRIMM) in China, for bulk sample metallurgical and process test work. In 2018, the sample was split with a 25% sub-sample collected for test work in the Czech Republic, and the remaining 75% collected and stored in vacuum-sealed bags, which were then placed in steel barrels, in a warehouse located near the CMP site, in order to remain fresh and unaltered, and available for future metallurgical and pilot plant testing.

A rigorous quality assurance (QA) and quality control (QC) program was implemented by EMN, which included use of field duplicates, lab duplicates, insertion of three certified reference materials (CRMs), and insertion of two certified blank materials. Drill hole twins completed in 2018 were used to verify the 2017 sample database. Quality control methods were reviewed by Tetra Tech's Qualified Person (QP) James Barr, P.Geol. (Geology QP), during site visits to the Property. Following receipt of analytical results, Tetra Tech undertook compilation of the geological database, the verification of laboratory data, and the QA/QC program for data validation. The QP is satisfied that the sampling method and analytical integrity has been preserved throughout sample handling, preparation, and analytical process.

Analysis and test work conducted on the samples, included:

- Multi-element assay using aqua regia and four acid digestions as proxy for soluble manganese (sMn)
- Whole rock analysis using fusion x-ray fluorescence (XRF) for tMn concentrations
- Particle size analysis using laser diffraction and sieve/hydrometer methods
- Mass measurements
- Moisture content measurements
- Specific gravity measurements

EMN conducted a preliminary in situ dry bulk density investigation in advance of the 2017 drilling program using a cylinder test method from near surface samples. This work was followed by an in-depth calculation of in situ dry bulk density using core recovery volumes and dry mass using SGS laboratory measurements following both the 2017 and 2018 drilling investigations. Calculated in situ dry bulk density values for individual samples ranged between 0.35 and 3.154 t/m³, with a 95% probability interval of 0.87 to 2.01 t/m³, and average value of 1.49 t/m³ ±0.017 t/m³.

Manganese is primarily hosted in carbonate minerals with lesser amounts as silicate and oxide minerals, as identified by x-ray diffraction (XRD). Mineralogical studies have been completed by EMN in 2015 and reported by AMEC in their initial investigation in 2016 (AMEC 2016), and by CRIMM in 2017. The combined work identified that 80% of the manganese occurs as carbonate and 19% of the manganese occurred as silicate. The primary manganese carbonate is rhodochrosite (MnCO₃), with lesser amounts of manganese bearing carbonates having variable proportions of iron, calcium (Ca), and magnesium (Mg) with carbonate to form a wide variety of minerals from the rhodochrosite (Mn)-siderite(Fe)-dolomite(Mg)-calcite(Ca) spectrum. Scanning electron microscopy (SEM) investigation work identified a rare and locally named mineral kutnohorite (Ca(Mn²⁺, Mg, Fe²⁺)(CO₃)₂) found within this spectrum and identified as a significant manganese bearing carbonate.

Manganese bearing silicates include spessartine ($Mn_3Al_2(SiO_4)_3$), rhodonite $((Mn, Fe, Mg, Ca)SiO_3)$, and trace concentrations of sursassite $(Mn^{2+}Al_3(SiO_4)(Si_2O_7)(OH)_3)$. Trace amounts of the manganese oxide pyrolusite (MnO_2) were also detected. Predominant gangue minerals are quartz, albite, muscovite, pyrite, and apatite.

Total sulphur concentration in the tailings averages approximately 3.4% which is sourced from sulphide, sulphate, and organic sulphur origin. Total carbon concentrations average approximately 3.5%, which includes contributions from graphite, organic carbon and carbonate origins. Figure 1-3 shows photos of core recovered from drill hole T1-312, near the core of Cell #1.

Figure 1-3: Core Photos from Drill hole T1-312, from Depths 3 to 4 m, 9 to 10 m, and 23 to 25 m



1.4.1 Mineral Resource Estimate

A three-dimensional model was created for Cells #1, #2, and #3 using a digital topographic model (DTM) compiled by GET using data from the 5th generation digital elevation model (DEM) 5G developed by the Land Survey Office in Prague from light detection and ranging (LiDAR) data in the System Jednotne Trigonometricke Site Katastralni (S-JTSK) (Krovak East North) coordinate system and the Baltic Vertical Datum (BPV). The topography has been used to constrain volume estimates for each cell.

Lithology logs were used to construct an upper contacting surface between tailings and topsoil, then used to construct a lower contact surface between tailings and native subsoil. The intervening volume defined the volume of tailings material in each cell and was used to constrain all laboratory analysis and test work data that was subsequently used to model various physical and chemical attributes of the tailings material.

Data was analyzed in Phinar X10-Geo v.1.4.15.8, Snowden Supervisor v8.9.0.2 and Seequent Leapfrog® Geo v.4.4.2, and models were developed using Seequent Leapfrog® Geo v.4.4.2. All sample data was composited to 2 m, and each cell was modelled separately. No capping was applied to manganese grades as no outliers were identified on the normally distributed data.

Interpolated block models were developed for physical parameters including grain size, in situ dry bulk density, and moisture content, as well as an additional 18 elements. Grain size was represented using D₅₀, D₈₀, D₉₀, which are the average diameter of the particles at the 50th, 80th, and 90th percentiles within the sample, respectively, and using P₇₅, which is the percentage of the sample that passes a standard 200 mesh, equivalent to a 75 µm nominal mesh. The model results show that particle size transitions from coarse to fine inwards in each of the cells. Average P₇₅ for each cell ranged from 66.48 to 71.29%, indicating that the bulk of the material is silt size or smaller. In situ dry bulk density varies throughout each cell and is a function of the composite mineral densities in addition to the degree of compaction in the soils. Modelled in situ dry bulk density values ranged from 1.10 to 2.15 t/m³, with an overall average of 1.51 t/m³. Moisture content measured from each sample ranges from approximately 1.2 to 39.3% and averaged 21.14% overall. As with particle size distributions, moisture shows a strong zonation towards the center of each cell where the material was observed to be saturated with above average moisture content.

Total and soluble manganese concentrations were interpolated using inverse distance (cubed) (ID³) interpolation method into a sub-block model with 50 m by 50 m by 4 m parent blocks, and 12.5 m by 12.5 m by 2 m sub-blocks. The dry in situ bulk density model was applied to the sub-block model to calculate block tonnages. The block model was classified and validated by the Geology QP, using guidelines set forth by NI 43-101 and CIM Best Practices. The Mineral Resource Estimate (MRE) was classified as Measured and Indicated based on sample spacing and variance assessment. Table 1-1 lists the MRE which has an effective date of July 1, 2022. This MRE supersedes the previous MRE with effective date of December 8, 2018.

Table 1-1: Mineral Resource Estimate for the Chvaletice Manganese Project, Effective July 1, 2022

Cell	Class	Volume ('000 m ³)	Tonnage (kt)	In Situ Dry Bulk Density (t/m ³)	tMn (%)
#1	Measured	6,577	10,029	1.52	7.95
	Indicated	160	236	1.47	8.35
#2	Measured	7,990	12,201	1.53	6.79
	Indicated	123	189	1.55	7.22
#3	Measured	2,942	4,265	1.45	7.35
	Indicated	27	39	1.45	7.90
Total	Measured	17,509	26,496	1.51	7.32
	Indicated	309	464	1.50	7.85
Combined	M&I	17,818	26,960	1.51	7.33

Notes:

1. Estimated in accordance with the CIM Definition Standards on Mineral Resources and Mineral Reserves adopted by CIM council.
2. The Chvaletice Mineral Resource has a reasonable prospect for eventual economic extraction. Mineral Resources do not have demonstrated economic viability.
3. Indicated Mineral Resources have lower confidence than Measured Mineral Resources.

4. A break-even grade of 2.18% tMn has been estimated for the Chvaletice deposit based on preliminary pre-concentration operating costs of USD\$6.47/t feed, leaching and refining operating cost estimates of USD\$188/t feed, total recovery to HPEMM and HPMSM of approximately 60.5% and 58.9%, respectively, and a combined price derived using metal prices of 9.60 kg/t for HPEMM and 3.72 kg/t for HPMSM (CPM Group Report, June 2022). The actual commodity price for these products may vary.
5. A cut-off grade has not been applied to the block model. The estimated break-even cut-off grade falls below the grade of most of the blocks (excluding 5,000 t which have grades less than 2.18% tMn). It is assumed that material segregation will not be possible during mining due to inherent difficulty of grade control and selective mining for this deposit type. An applied cut-off grade has no impact on the block model and Mineral Resource Statement.
6. Grade capping has not been applied.
7. Numbers may not add exactly due to rounding

1.5 Mineral Processing and Metallurgical Testing

Starting in 1986, several metallurgical test programs have been carried out to assess metallurgical responses of recovering manganese from the tailings materials that originated from pyrite mining conducted from 1951 to 1975. During 2015, 2017, 2018 and 2019 to 2021, EMN undertook further manganese recovery test programs, including semi-continuous pilot plant testing. The test work conducted before early 2017 has been discussed in the report titled *Technical Report and Mineral Resource Estimate for the Chvaletice Manganese Project, Chvaletice, Czech Republic*, released on June 21, 2018 (Tetra Tech 2018).

A comprehensive test program has been conducted since September 2017 using a total of 743 drilling core interval samples from the 2017 drill program. The main objectives of the test program are to verify the previous test findings and develop and optimize the process flowsheet and conditions to produce HPEMM. A separate test work program was conducted in 2018 to investigate the generation of HPMSM from the magnetic separation concentrate and from the EMM flakes.

During 2019 and 2021 as part of the Feasibility Study, Beijing General Research Institute for Mining and Metallurgy (BGRIMM) conducted a further test program mainly focusing on validating the previous test results generated from the 2017-2018 test program by CRIMM. BGRIMM also conducted equipment sizing testing with several Chinese equipment manufacturers in order to conduct liquid/solid separation and magnetic separation testing. BGRIMM's test work also investigated two key process reagents, which were sourced from European suppliers for solution purification. The Company has taken the strategic approach to source reagents from the EU.

In 2021, Jenike & Johanson (Jenike), based in Ontario, Canada, conducted material characterization and bulk material handling tests on the raw tailings, as well as a blend of non-magnetic tailings (NMT) and leach residue (LR) (NMT/LR or "residue") produced during the tests conducted by BGRIMM.

A total of 25 composite samples were constructed from the 2017 drill core interval samples representing different mineralogical characteristics, including grade, particle size, and spatial location variations. The tMn content of the samples vary from 5.71 to 8.77% tMn. The acid-soluble manganese to tMn ratio fluctuates in a narrow range of 0.75 to 0.85.

The 2017-2018 test work focused on developing and testing a flowsheet for the reliable production of HPEMM and HPMSM using the cleanest available technology to meet all Czech and European Union (EU) health, safety, and environmental standards. The test work program included:

- Process mineralogical study
- Pre-concentration of manganese minerals by high-intensity magnetic separation
- Sulphuric acid dissolution of manganese minerals from the magnetic separation concentrate

- Iron and phosphorus removal and related pregnant solution and leach residue separation
- Pregnant solution purification
- Selenium-free electrowinning followed by chromium (Cr)-free passivation to produce HPEMM
- Magnesium removal without the use of fluorine containing reagents
- HPMSM production directly from magnetic separation concentrate and from electrolytic manganese metal flakes
- Ancillary tests, including leach residue washing, manganese recovery from residual washing solution, and magnetic separation tailings, and leach residue dewatering and detoxification
- Potential equipment vendor verification tests, including magnetic separation, leach residue washing, magnetic separation tailings and leach residue dewatering/solid-liquid separation.

A program of locked-system, semi-continuous pilot plant testing investigated the metallurgical performance of the tailings samples for the flowsheet and process conditions developed from the bench tests and generated sample products, including HPEMM flakes and HPMSM powders.

A process mineralogical study was conducted on the Master Blend (MB) Composite sample prepared by CRIMM. The mineralogical characteristic study includes a mineral component determination by optical microscope, XRD diffraction analysis, SEM, and mineral chemical phase analysis. The study verified the previous findings, indicating that manganese mainly occurs in the form of manganese carbonates, including rhodochrosite and kutnohorite. The manganese carbonates account for approximately 80% of the tMn. The second main manganese mineral group, approximately 19% of the manganese, is in the form of manganese silicates.

Magnetic separation bench tests were conducted using two types of high-intensity magnetic separation machines, vertical ring-type (VR-type) separator and horizontal ring-type (HR-type) separator. The test results show that manganese recovery varies from 76.7 to 94.3% tMn, averaging 87.7% tMn, and on average magnetic separation can improve the feed manganese content from 7.2% tMn to approximately 14% tMn, ranging from 12.0 to 15.4% tMn.

During 2019 and 2021, BGRIMM used the samples that remained from the 2017-2018 CRIMM test program, weighing in total approximately 1.7 t, for the verification testing. Using a rougher separation followed by scavenger separation and scavenger cleaner separation, the test results from the MB composite prepared by BGRIMM produced a 15.1% Mn concentrate (combined rougher and scavenger cleaner concentrate) with a manganese recovery of 86.8%. Comparing with CRIMM's results, BGRIMM concluded that:

- It is feasible to use the magnetic separation process to recover the manganese bearing minerals
- Magnetic field intensity (MFI) of 1.5 T for both rougher and scavenger separations is proposed, especially for the scavenger separation. This will provide an opportunity for a further improvement in manganese recovery, because the finer than 20 µm particle size is more than 50% w/w.

Considering the downstream iron (Fe)/phosphorus (P) removal treatment, the optimized leach conditions were determined as: leach temperature at approximately 90°C with a leach retention time of 5 to 6 hours and 0.42 acid to 1.0 feed ratio. On average, approximately 75% of the manganese can be extracted by sulphuric acid leaching, ranging from 71.9 to 82.8% tMn. BGRIMM's tests showed some variations in manganese extraction performances in the bench tests. However, in the large scale residue preparation testing using a higher acid to feed ratio (0.48 : 1.0) for generating the residue sample for dewatering produced an average manganese extraction of

approximately 79%. BGRIMM also verified heavy metal removal test results using the reagents sourced from European suppliers.

Three semi-continuous pilot plant runs were conducted by CRIMM on the composite samples: a high-grade composite (Composite P1) and a low-grade composite (Composite P2) using the optimum conditions developed from the bench tests. The test flowsheet was based on the batch test results and industrial operation experience. The first pilot plant run on the MB composite sample showed that some of the impurity levels of the electrolytic manganese flakes may exceed some customer requirements (the HPEMM’s specifications are confidential and commercially sensitive). Comprehensive testing was further conducted by a quality optimization intervention to optimize solution purification and electrowinning conditions. This optimization testing significantly improved electrowinning circuit performance and electrolytic manganese product quality. It is anticipated that the impurity content of the HPEMM should meet and/or possibly exceed some customer criteria. Using the optimized process conditions, the subsequent second and third semi-continuous pilot plant runs on Composites P1 and P2 were conducted. According to the assay results by CRIMM, the tMn content of the manganese flakes produced was higher than 99.9% (manganese content was calculated by subtracting total impurity content) and impurity levels are anticipated to meet or exceed the threshold specified by potential users. Table 1-2 summarizes the key circuit performances.

Table 1-2 Key Pilot Plant Test Results

Sample	Magnetic Separation		Acid Leach Extraction (% tMn)	Electrowinning	
	Concentrate Grade (% tMn)	Recovery (% tMn)		Current Efficiency (%)	Power Consumption (kWh/t EMM)
MB Composite	15.1	88.3	75.6	59.7	6,900
Composite P1	16.0	89.1	81.8	64.2	6,200
Composite P2	14.8	86.4	73.5	63.4	6,400

A preliminary test program was conducted to investigate the production of HPMSM from the Chvaletice mineral resource. Three different process schemes were tested separately, including HPMSM sample production:

- From direct acid leaching of the magnetic concentrate without electrowinning purification
- From 99.9% HPEMM (selenium and chromium free)
- From 99.7% EMM (selenium and chromium containing)

According to the assays by CRIMM, in general, the impurity content of the HPMSM powders produced from the three process schemes were lower than the target values, excluding the levels of sodium, fluorine, and heavy metals in the HPMSM directly produced from the magnetic concentrate. The best quality HPMSM, containing higher than 32.2% manganese, was produced from the HPEMM flakes generated from the pilot plant runs without the use of fluorine containing reagents.

Using the HPEMM flakes produced by the CRIMM’s 2018 pilot plant, BGRIMM further verified and optimized HPEMM dissolution and manganese sulphate solution purification procedures proposed by CRIMM. BGRIMM also investigated MSM crystallization processes using a synthetic solution, one by conventional low temperature evaporation conducted at 70 to 100°C under a vacuum environment and one by high temperature crystallization at 160°C. The test results show that there is no significant difference in product particle size distribution between the

crystallization methods. BGRIMM recommended using the conventional evaporation method for the project primarily because this process is a mature technology which is currently used in MSM production.

For the conventional low temperature evaporation testing, the crystallization testing was conducted at 70 to 100°C under a vacuum environment. The results showed that the particle size of MSM crystals increase with the evaporation temperature. The optimum crystallization temperature for the low temperature evaporation crystallization process should be at 100°C or higher. This was the crystallization route chosen for the CMP flowsheet.

Since 2018, EMN conducted various chemical and physical analysis for the HPEMM and HPMSM samples that were prepared from the bench scale tests and the pilot plant tests completed by CRIMM. The evaluation work also reviewed the target HPEMM and HPMSM specifications based on potential customer requirements.

1.6 Mineral Reserve Estimate

The Mineral Reserve estimate was prepared with reference to the 2014 CIM Definition Standards and the 2019 CIM Best Practice Guidelines. Mineral Reserves for CMP are based on the Measured and Indicated Resources and an updated mine design and do not include any Inferred Resources. The estimate results are shown in Table 1-3.

The mineral reserves are estimated at 26,644,344 t at an average grade of 7.41% manganese, inclusive of dilution and other losses. Material economic modifying factors were applied to each block in the block model including mined grade, contained metal, recovery rates for HPEMM and HPMSM, mining operating cost, processing cost, (including HPEMM to HPMSM conversion cost), residue placement cost, general and administrative costs, site service costs, water treatment, shipping cost, product insurance, and royalties. HPMSM and HPEMM pricing used for Mineral Reserve estimation is based on price projection assumptions developed by CPM Group, an independent high-purity manganese market research firm.

Table 1-3: Mineral Reserve Estimate for the Chvalětice Manganese Project, Effective Date July 14, 2022

Cell	Class	Volume ('000 m ³)	Tonnage ('000 t)	In Situ Dry Bulk Density (t/m ³)	tMn (%)
1	Proven	6,651	10,132	1.51	7.83
	Probable	141	208	1.52	8.24
2	Proven	7,929	12,106	1.53	6.91
	Probable	119	183	1.54	7.35
3	Proven	2,744	3,979	1.46	7.49
	Probable	25	36	1.46	7.98
Total	Proven	17,325	26,217	1.50	7.36
	Probable	284	427	1.52	7.82
Combined	--	17,609	26,644	1.51	7.41

Notes:

1. Estimated in accordance with the CIM Definition Standards on Mineral Resources and Mineral Reserves adopted by the CIM council, as amended, which are materially identical to the JORC Code.

2. Probable Reserves have lower confidence than Proven Reserves. No Measured Resources were included within Probable Reserves. Inferred Resources have not been included in the Reserves.
3. A breakeven grade of 2.18% total Mn has been estimated for the Chvaletice deposit based on preliminary pre-concentration operating costs of \$6.47/t feed, leaching, and refining operating costs of \$188/t feed, total recovery to HPEMM and HPMSM of approximately 60.5% and 58.9% respectively, and product prices of \$9.60/kg for HPEMM and \$3.72/kg for HPMSM (CPM Group Report, June 2022, forecast price average 2027 to 2031). The actual commodity price for these products may vary.
4. Grade capping has not been applied.
5. Minimal dilution and losses of <1% are expected to occur at the interface between the lower bounds of the tailings cells and original ground due to the uneven surface.
6. Numbers may not add exactly due to rounding.

The QP is not aware of any mining, metallurgical, infrastructure, permitting, or other issues above those discussed in the Technical Report that could materially affect the stated Mineral Reserve estimates.

1.7 Tailings Extraction Methods

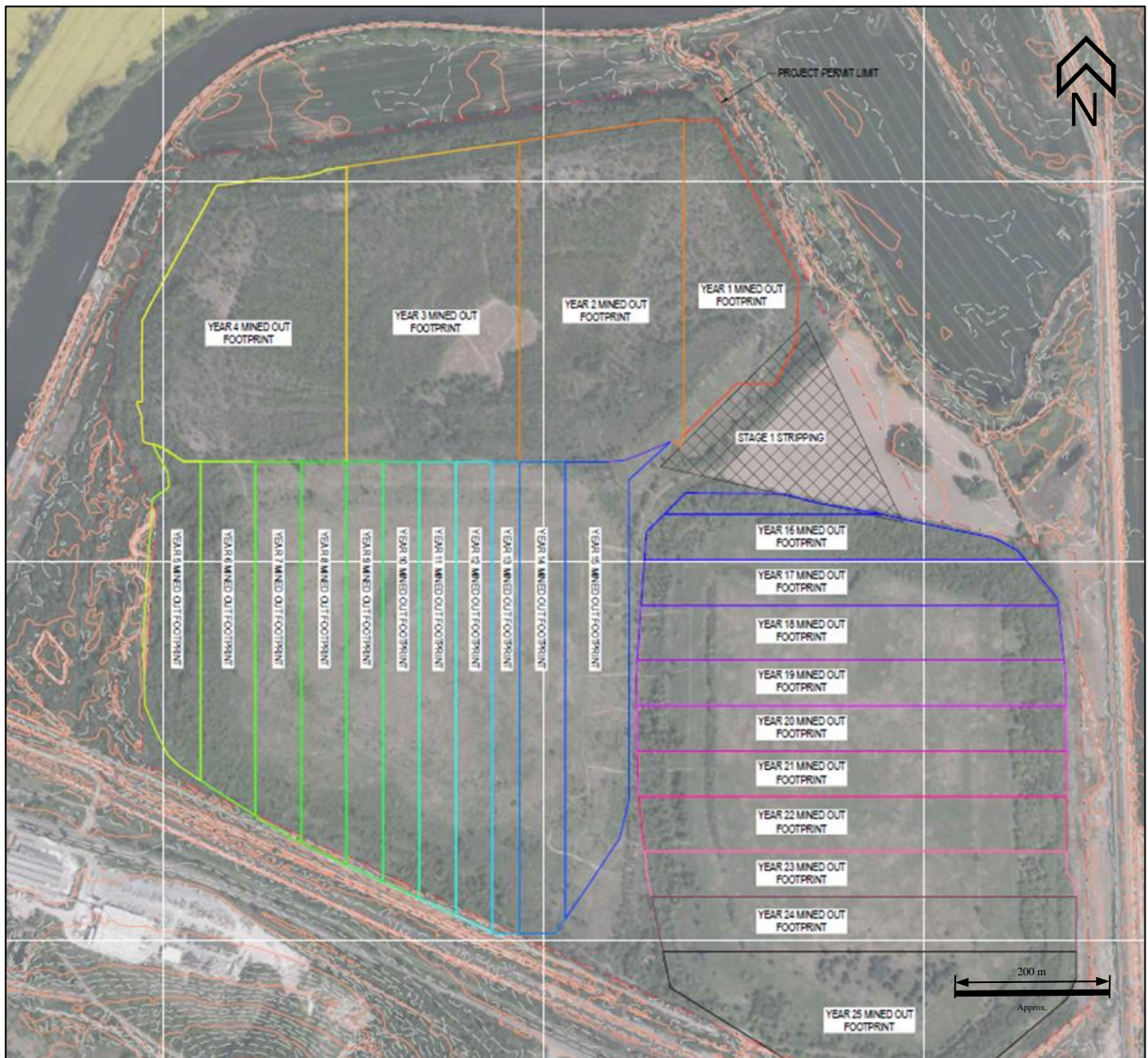
The CMP mine plan is designed to produce approximately 3,000 t/day of tailings feed over a 25-year project life. The mine plan is based on truck and shovel equipment extracting the tailings in benches from the three tailings cells. The mine design criteria were based on the project and regulatory requirements. The bench designs were based on geotechnical and hydrogeological analysis and permits. The tailings will be extracted at a rate that allows the residue to be placed within the existing footprint. A main haul road between the tailings cells to a plant feed storage area will provide access to all cells and temporary haul ramps will be developed in each cell as they advance. No drilling or blasting will be required to mine the cells.

Tailings are extracted from the cells and transported by truck to the raw tailings receiving area, where they are unloaded into a receiving dump pocket and conveyed to the tailings storage stockpile in the plant feed and tailings storage and pulping building and then processed to recover manganese. The process plant produces NMT and LR as a waste product (collectively referred to as 'residue'). This residue is collected from the process plant and conveyed to the residue storage stockpile within the plant feed and tailings storage and pulping building. The residue is then transported by truck back to the tailings cell area. The residue is deposited in the original footprint of the tailings cells, in the area that has already been mined. Once the trucks have unloaded the residue material, they return to the active mining bench to collect raw tailings material to return to the plant feed and tailings storage and pulping building again in a continuous cycle. As shown in Figure 1-4, the tailings extraction will start from Cell #3, followed by Cell # 1 and Cell #2 sequentially. The primary drivers of the production schedule are mining the tailings to meet the plant production targets and advancement of the toe of the tailings material to allow storage capacity for the residue placement. Topsoil growth on the cells will be removed prior to mining the tailings.

Mining the tailings cells of the CMP will be completed during two eight-hour shifts, weekdays, in daylight hours to minimize community disturbance. Mining operations will be done 250 days a year, 5 days a week, excluding weekends and holidays. The pre-production requirements of the Project are minimal given the absence of significant overburden and topsoil that will need to be stripped on an annual basis. Passive depressurization of the tailings cells from the cut slopes of the mining benches will allow mining equipment to operate on the benches without active dewatering during operations.

The amount of equipment required to meet the scheduled tonnages is calculated based on the mine and residue schedules, equipment availability, usage, and hauling and loading times for the equipment. Selected mine equipment can be sourced and maintained in close proximity to the Project. On-site infrastructure includes a warehouse/administration building, truck maintenance workshop, fuel station, truck washing facility, parking areas, and temporary storage areas for tailings and residue.

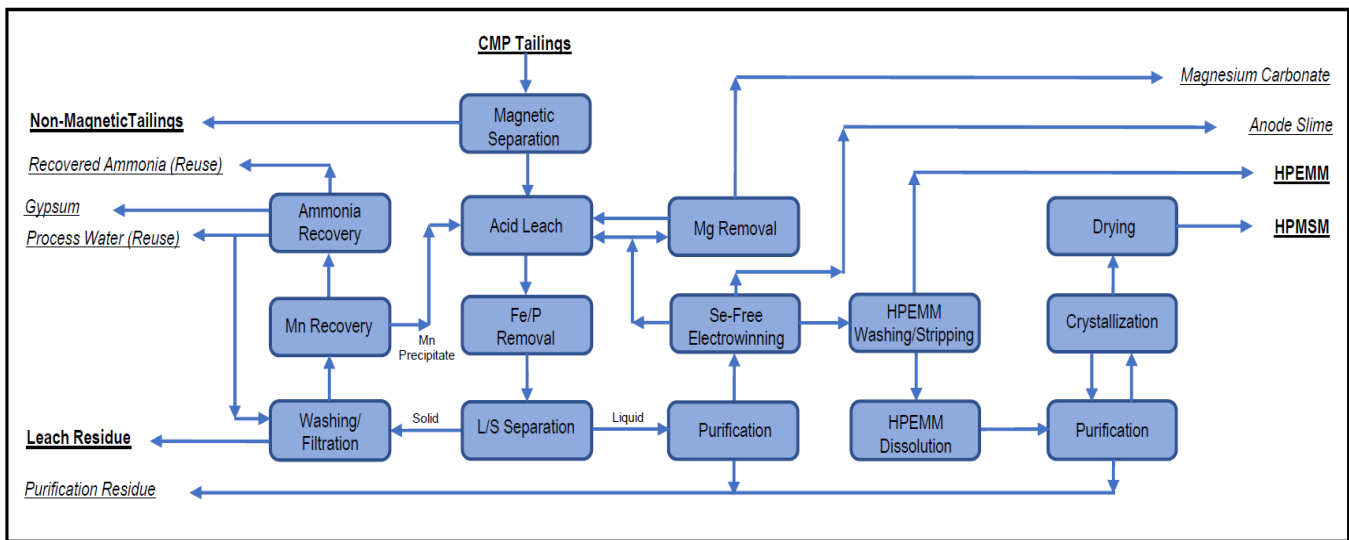
Figure 1-4: Selected Extraction Sequence for the CMP Tailings



1.8 Recovery Methods

The CMP project is designed for a 25-year life at a nominal, nameplate production rate of 50,000 t/a of HPEMM, by extracting approximately 1.1 Mt/a of the CMP tailings. Two-thirds of the annual HPEMM flake production is expected to be converted to approximately 100,000 t/a of HPMSM. HPEMM product containing greater than 99.9% manganese is expected to be sold as flakes and will be produced without the use of selenium and chromium. The CMP HPMSM product will be designed to contain no less than 99.9% manganese sulphate monohydrate (MSM), a minimum of 32.34% manganese, and will be sold in powder form, produced without the use of fluorine. Figure 1-5 shows the proposed process flowsheet.

Figure 1-5: Simplified Process Flowsheet



Excavated tailings will be pulped and pumped via a pipeline carried by an overhead bridge that will cross Highway #322, the rail line, and related rail spur that adjoins to the proposed process plant site located south of the CMP tailings cells.

The tailings slurry will be beneficiated in a wet, high-intensity magnetic separation circuit that will upgrade the manganese grade of the leach feed to approximately 15% tMn and, on average, reject approximately 57% of the feed to NMT, with an expected 86% manganese recovery. The magnetic concentrate and NMT produced will be dewatered using thickeners and filters. The concentrate will be fed to the downstream leach process and the dewatered tailings, together with the washed leach residue, will be dry stacked at the residue storage facility (RSF).

The magnetic concentrate cake will be re-pulped using anolyte solution from the electrowinning tank house and leached, together with recovered manganese carbonate from process solutions, using sulphuric acid at 90°C for approximately six hours. Neutralization of the slurry will be achieved using dry powder lime. Air sparging of the neutralized slurry will be used to cost-effectively co-precipitate the substantial quantities of impurities that leach with the manganese. The leach pulp will be filtered in automatic pressure filters to separate the pregnant leach solution from the LR.

The leach residue will then be repulped with the washing water from the downstream filter cake washing process. The slurry will be then dewatered using pressure filtration equipped multi-stage onstream washing using process water. The washed LR filter will be blended with the NMT filter cake and conveyed to the tailings extraction site prior to co-disposal in a lined dry stack tailings storage facility that will be progressively constructed in excavated areas of the CMP tailings cells.

The wash water from the leach residue washing circuit will be treated for manganese and ammonia recovery in order to minimize manganese and ammonia losses. The wash water recovery system will recover manganese units to the leaching circuit in the form of manganese carbonate. The spent wash water solution will be subsequently treated to recover ammonia using a conventional lime boil process and will produce a gypsum by-product, the potential value of which is not included in the CMP economics. The recovered ammonia will be re-used in the HPEMM production circuits. The inclusion of the leach residue washing circuit, with its associated wash water recovery circuit, is expected to be a world-leading industry practice for the hydrometallurgical processing of manganese ores. Returning washed tailings to the carefully prepared containment cells in the excavated areas of the CMP tailings progressively remediates the environmental impact risks of legacy mining operations.

The pregnant solution from the leaching circuit will be purified to remove heavy metals and other impurities and stabilized to prevent uncontrolled crystallization of salts to produce a qualified solution for the downstream electrowinning process.

Electrowinning will be conducted in electrowinning cells following the addition of ammonium bisulphite (NH_4HSO_3) as sulphur dioxide (SO_2) source to the tank house feed solution. The tank house shall have a nominal capacity to produce 50,000 t/a HPEMM using an energy-efficient and selenium-free process. The proposed electrowinning circuit is designed to have a plating cycle of 24 hours at a cell voltage of 4.2 to 4.4 V and an average cathode-current density of 320 to 370 A/m². Cathodes will be harvested using automatic harvesting machines, washed, and stripped of electrodeposited manganese metal using Chinese based industry-standard automatic cathode plate stripping machines. The design of the CMP tank house includes comprehensive mist emission control and mechanical handling systems that minimize manual handling of cathodes and other processes. Tank house system design features include anode slime handling, as well as diaphragm cleaning and ongoing cell maintenance operations. Approximately two-thirds of the HPEMM flakes would then be used as feed for HPMSM production. The remaining HPEMM flakes would be packed and directly shipped to customers.

A magnesium removal process has been incorporated into the process plant design to ensure efficient electrowinning operations and high-quality products. The magnesium removal process will maintain the magnesium concentration in the electrowinning solutions at a level that prevents uncontrolled precipitation of salts and scaling. The process will use low-cost reagents without incurring significant losses of manganese and reagent units and will not require the use of magnesium removal reagents containing fluorine.

The FS production plan proposes to dissolve approximately two-thirds of the HPEMM flakes using high purity sulphuric acid to produce 100,000 t/a of HPMSM powder. The dissolved HPMSM solution will be further purified to remove trace impurities carried by the HPEMM flakes. The purified mother solution will be concentrated using an energy-efficient, low-temperature mechanical vapor recompression (MVR) crystallization process to generate manganese sulphate monohydrate crystals. The HPMSM crystals will be separated from the saturated MVR crystal slurry using centrifuges. The dewatered crystals will be dried using disc type dryers to produce the final HPMSM powder, while the spent mother solution will return to the mother solution purification circuit or to the crystallization circuit. The dried HPMSM powder product will be packed prior to being shipped in trucks or containers to customers which will primarily be located within the European countries. Table 1-4 summarizes projected manganese product production and metal recovery for the CMP.

Table 1-4: Projected Manganese Product Production and Metal Recovery

Year	Tailings Reprocessed (kt)	Plant Feed Grade (% tMn)	HPEMM Produced (kt)*	HPMSM Produced (kt)*	Overall Recovery (% tMn)
1	718	7.98	10.4	65.0	55.0
2	1,113	7.41	16.7	100.0	59.6
3	1,107	7.44	16.7	105.0	59.6
4 to 25 Average	1,078	7.39	14.9	100.0	59.5
Average	1,066	7.41	14.9	98.6	59.4

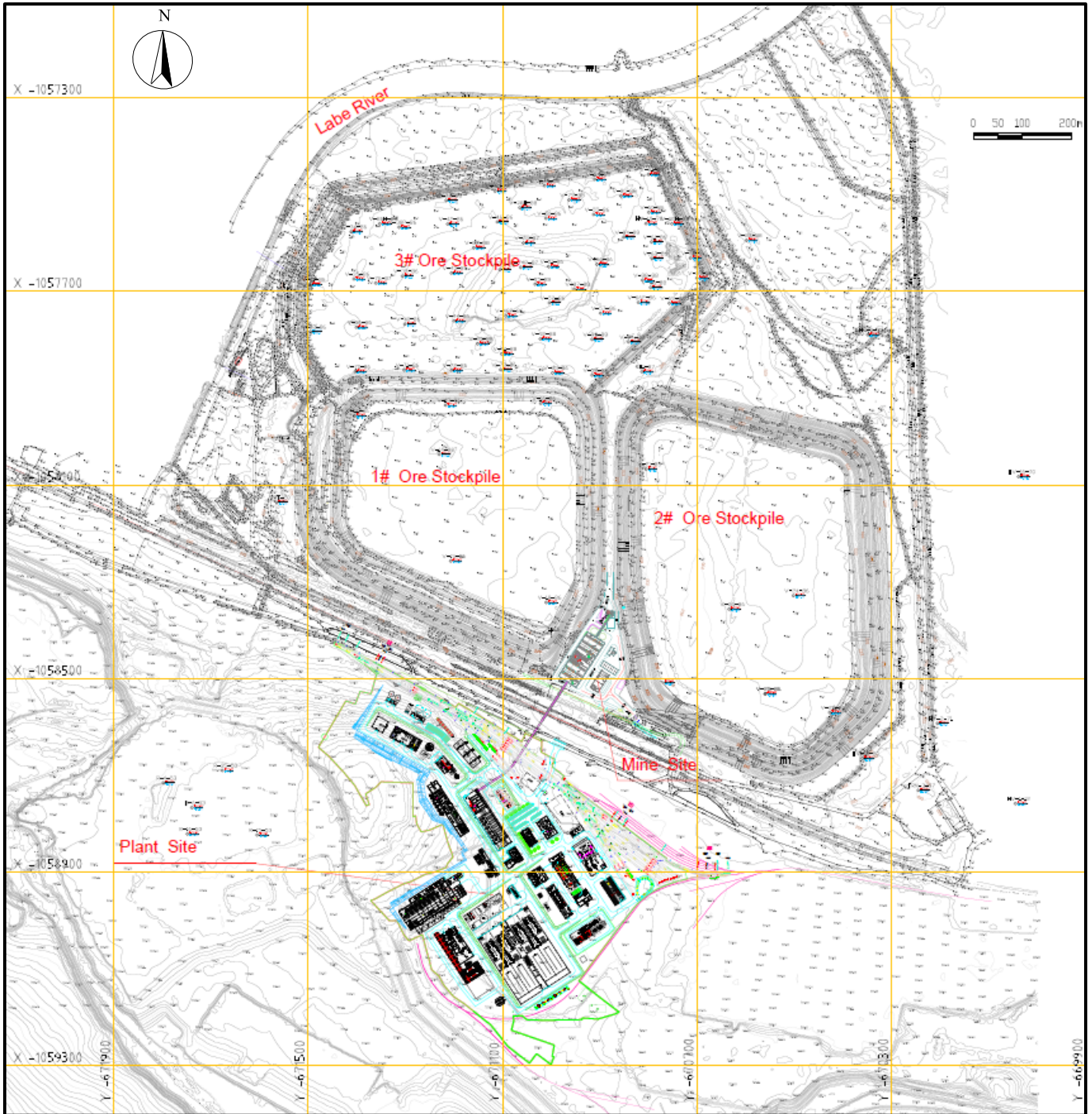
Note: *Approximately two-thirds of the annual HPEMM production is converted to HPMSM on the site, with the balance being sold as HPEMM.

1.9 Project Infrastructure

1.9.1 General Infrastructure

The CMP is a brownfield project adjacent to existing infrastructure which includes an 820 MW coal-fired power station operated by Severní Energetická a.s. (Severní), a pre-cast concrete plant operated by TIBA Chvaletice s.r.o., a main railway, and railway spur lines. A new cast iron foundry by KASI spol. s.r.o. and a new asphalt plant by Obalovna Chvaletice a.s., immediately adjacent to the proposed CMP plant site, were recently constructed. Highway #322 connects to Prague, 89 km away by road, via Kolin and Highway #12. The railway acts as a main transportation line from Prague to communities in the Eastern Czech Republic. The proposed location for the high-purity manganese production plant is located at the same site of the former flotation plant that produced the CMP tailings.

Figure 0-3: CMP Project Site Layout



New infrastructure will be built to service the CMP, including:

- Existing CMP tailings site: CMP tailings excavation and handling facility, including mobile fleet maintenance workshop and office complex, fuel station, sewage treatment plant, the tailings pulping facility and temporary stockpile storage facilities for the plant feed and dewatered residue for dry stacking on a lined RSF. The residue will be conveyed to the stockpile storage area from the process plant and then trucked to the excavated CMP tailings area which will be lined with a geomembrane liner, including basal, sand layer for protection, and drainage of the filtered residue stack.
- South and north site connection bridge (conveyor gallery) which will service the tailings slurry transport from the north site to the south site and the residue mixture transport by a tube conveyor from the south site to the residue storage area at the north site. The bridge will also provide other services, such as power and water lines.
- Process plant site: Main process facilities, as shown in the layout in Figure 1-7, will be located at the site, including:
 - Magnetic separation facility, including NMT dewatering circuit
 - Magnetic concentrate dewatering and concentrate re-pulping facility
 - Concentrate sulphuric acid leaching and iron and phosphorus removal facility, including residual manganese recovery (from washing water solution)
 - Leach residue washing and residue dewatering facility
 - Ammonia recovery facility
 - Magnesium removal facility
 - Pregnant solution purification facility
 - HPEMM electrowinning, plate cleaning, stripping, packing, and storage facility
 - HPMSM production facilities, including HPEMM dissolution, solution purification, crystallization, HPMSM crystal dewatering and drying, and product handling facilities
 - Central control system

Figure 1-7: Preliminary Process Plant Site Layout (3D Format)



There will also be other service infrastructure located at the process plant site, including:

- Two 400 kV/37.5 kV/10.5 kV step-down transformers contained within the main plant site substation; four 350 VDC, 36 kA (2 x 18 kA) rectifier transformers and various local step-down transformers
- Emergency power supply generator
- Process equipment maintenance workshop, spare parts and maintenance supply warehouses
- Water supply and management system, including contact water collection and treatment, water cooling systems, and process water treatment facilities, and a fire water system
- Assay and metallurgical test laboratories for operation supporting and QA/QC control
- General management office
- Change rooms and dining facility
- Commercial truck and private car parking areas
- Upgraded rail spur system and related loading and unloading facilities, including sulphuric acid storage tanks, lime silos
- Onsite road network, servicing overall site facilities
- Waste storage, including anode slime storage and other waste material temporary storage prior to being shipped offsite for recycling or disposal

Local electrical power is supplied by the high voltage Czech transmission grid operated by ČEPS, a.s. (CEPS). There is an 820 MW power coal-fired station which is one of key nodes in the Czech electrical generation network. The estimated power demand of the CMP is approximately 75 MVA. Incoming power will feed to two 400 kV/37.5 kV/10.5 kV step-down transformers located at the plant site substation, which shall be supplied by a

single, buried 400kV cable connected to a dedicated substation bay at the adjacent power plant. Additionally, four 350 VDC, 36 kA (2 x 18 kA) rectifier transformers shall convert alternating power to direct current supply as required by the electrowinning process. Local step-down transformers feeding the main plant overhead, 10 kV, site wide power distribution system will deliver electrical energy throughout the process plant site and tailings excavation site.

The water supply system will consist of fresh make-up water, cooling circulation water, potable water, and fire water supply systems. In-situ water contained within the CMP tailings will be part of the process make-up water and is accounted for in the overall water balance. All the process water used in the process circuits will be directly re-used or treated and re-used as process make-up water which will be supplemented by makeup water (blowdown water from the adjacent Severn power plant). In addition, demineralized water for steam generation and hot water (130°C) for process heating and building heating will be also sourced from the adjacent power plant.

There are two water management systems at both the north and south sites, one for contact water and one for non-contact/storm water. The surface water management is further discussed in Section 1.9.3.

Potable water will be supplied from the local water service system.

The steam used for the CMP will be generated from an on-site steam plant fired with natural gas. There will also be a dedicated hydrogen gas boiler contained within the same steam plant which will be fuelled by the hydrogen gas recovered from the HPEMM dissolution circuit. The primary use of steam is the ammonia recovery and HPMSM production circuits.

Compressed air servicing various process circuits, mainly for iron/phosphorus removal circuit and filtration circuits, maintenances, and instrumentation systems, will be supplied from a central compressed air station and supplemented by various local compressor stations.

1.9.2 Residue Storage Facility

The RSF design involves placement of filtered residue in an engineered and geomembrane-lined containment area constructed within the same footprint as the existing CMP tailings piles. The prepared RSF foundation will incorporate perimeter surface water diversion and a geomembrane liner for contact water collection from the filtered residue stack. The facility will be constructed in stages to suit residue storage requirements. Progressive cover placement/reclamation will be undertaken during the operational life where possible. The design was developed based on project requirements, geotechnical and hydrogeological site investigation, and geotechnical and geochemical laboratory characterization of the proposed residue. The ultimate shape at closure is shown in Figure 1-8.

Figure 1-8: RSF Closure Design

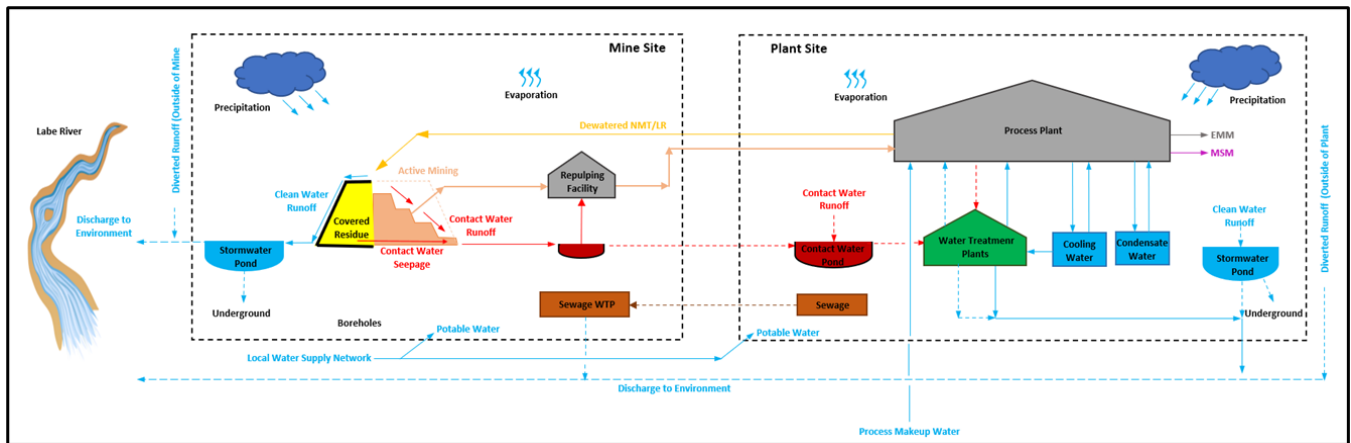


1.9.3 Site Wide Water Management System

All the water within the plant site will be managed to mitigate potential contamination of the surface and seepage water. Water management for the raw tailings site and the plant site will follow basic principals of keeping clean water clean and managing surface water flows using conveyances, such as collection ditches, ponds and surge tanks, reducing surficial inflow from neighboring properties and use of liners to reduce infiltration into groundwater.

Based on the local water authorities guide, a clean stormwater pond shall be sized such that the peak flow from the clean runoff for the post development condition is reduced to the peak flow from the clean runoff for the predevelopment condition during a 1:10 year, 1-hour storm event. The proposed water management strategy schematic for the CMP project is shown in Figure 1-8.

Figure 1-8: Surface Water Management Concept for the Chvaltice Manganese Project Site



1.9.3.1 Mine Site Water Management

The surface and groundwater drainage from the existing Chvaltice mine area currently enters the natural environment as seepage to groundwater and as runoff to the Labe River.

During the mining activity period, the contact runoff and seepage from the active mining area and the RSF will be collected through collection ditches and then routed into a collection pond and surge tanks at the mine site. The water will be used as process makeup water for the raw tailings pulping process. Flows from any storm event exceeding the capacity of this contact water storage (up to 1:200 year storm event) will be diverted towards the main contact water collection pond in the plant site. The water in the collection pond at the plant site will be treated and then either used as process makeup water or discharged to the environment. The collection ponds and ditches will be lined to control seepage. The seepage from the reclaimed RSF is expected to reduce to a relatively insignificant volume a few years following the completion of installation of the final reclamation cover. Until then and through closure phase, the collected contact water shall be monitored and treated as required prior to being discharged to the environment. The quality of the water that will be discharged into the surrounding environment, including Labe River, is expected to be improved through time as mine contact water is collected and managed.

All the non-contact water will be collected and directed to the non-contact water surge ponds from where the water will be released to the environment at a controlled rate.

1.9.3.2 Plant Site Water Management

The proposed process plant will be constructed south of the mine site within an existing industrial park. All the water within the plant site will be managed to mitigate potential contamination of the surface and seepage water.

The contact water from the site will first be collected and directed to a contact water control pond located at the north edge of the plant site. All ditches and the contact water pond that are used to manage contact water will be lined to mitigate seepage. The collected contact water from the site will be treated and used as process makeup water or discharged into the environment if its quality has met the environmental discharge requirement.

Non-contact/storm run-off water from outside of the process plant site will be diverted to the environment. All the non-contact water, including the water from building roofs, will be collected and directed to the site stormwater control pond prior to being released to the environment at a controlled rate or being used as a makeup water source for process use.

1.9.3.3 Sitewide Water Balance

A sitewide water balance analysis using the GoldSIM model for the CMP was completed by evaluating the balance among the inflows, outflows and storage associated to the system. The water balance model was used to estimate:

- The amount of contact water available for process use from both the mine and plant site areas;
- The makeup water requirement from various sources; and
- Annual discharge rates from the stormwater ponds to the Labe River.

1.10 Environmental Studies, Permitting and Social or Community Impact

The CMP entails the reprocessing of mine tailings deposited in close proximity to several communities, farms, light and heavy industrial operations, recreation areas, forested and rural fauna and flora habitats, as well the Labe River. The tailings cells and proposed process plant area are brownfield sites that have been significantly impacted by past industrial activities. The tailings have been placed directly on former farm fields in the alluvial plain of the Labe Valley without any underlying containment or lining system. These tailings have been leaching metals and minerals into the underlying sediments and aquifer for decades and continue to do so. The proposed plant site contains numerous buildings and infrastructure in various states of disrepair, when the site was used for the production of sulphuric acid, dating back to 1951-1975. Numerous buildings on this site continue to be occupied by small, light industrial businesses. Mining activity at CMP ended in 1975. Czech law exempts landowners and developers from impacts prior to 1989, when communism ended in the then Czechoslovakia.

Mangan started environmental and social baseline programs for the CMP in the summer of 2016 together with work in support of an Environmental Impact Assessment (EIA) Notification. Preliminary results are presented for air quality, noise, hydrology, hydrogeology, fisheries and aquatics, ecosystems, vegetation and soils, wildlife and wildlife habitat, and socioeconomics. Local features of interest were identified and recorded, including sensitive and protected areas, vegetation, landscape elements, and areas or sites of historical, cultural, archaeological, or geological importance. Climate, air, water, soil, natural resources, fauna, flora, and ecosystems, landscape, and population of the area were inventoried.

The crucial point of the project is to participate in the environmental and social impact assessment process and receive a binding statement from the applicable authorities, in this case, the MoE. The EIA permit is the most critical milestone to start project implementation because EIA appropriation is a trigger point for equipment, material and works supply contracts, land planning request, and construction permit initiation.

Several strategies for the EIA process were considered initially and the following strategy for the EIA process was assessed as being the most efficient. A consolidated EIA would be prepared for tailings extraction, dry-stacking, and the process plant, and two-staged process would be pursued for submission to authorities. Stage 1 includes the full scope (beyond the legislative requirements) of the EIA Notification together with expert studies and surveys with a full assessment of the project's anticipated impacts and proposed mitigation measures. Stage 2 includes EIA documentation according to the legislative requirements taking into consideration the requirements arising from the EIA Notification and comments from the authorities which were addressed in project design.

In 2019 – 2020, Bilfinger Tebodin Czech Republic conducted the Preliminary Environmental and Social Impact Assessment (PESIA or EIA Notification) as the first stage of environmental assessment of the Project. Several detailed expert studies were prepared, including a comprehensive site wide biological survey, a detailed air dispersion model and study, an acoustic/noise impact study, a road and rail transportation study, a site wide hydrogeological survey, a health impact assessment, an impact on landscape character study, and a reclamation and remediation study. A screening decision summarizing all received comments on the Company's EIA Notification was published by the MoE in December 2020. The conclusions of the EIA screening procedure did not result in any unexpected requirements.

Socioeconomic studies were prepared by the Faculty of Social Geography at Charles University to evaluate how the CMP might affect population movements and commuting patterns for work. It is anticipated that labour for the CMP could be drawn from the Chvaletice area and broader Pardubice Region, which has an educated, skilled labour pool. The anticipated socioeconomic effects are expected to be modest at a regional scale, but positive and valuable for local communities. Problems such as social polarization, segregation, and other phenomena related to moving or housing are not anticipated to be significant.

The construction of the CMP facilities is expected to last approximately 30 to 36 months. The productive life of the project is planned to be 25 years. Reclamation and restoration activities at the site to facilitate the return to a natural, productive state is expected to take a further one to two years. The vast majority of the reclamation is scheduled to be conducted progressively beginning shortly after commercial operations commence. While extensive efforts have been made to design a world-class manganese operation, applying best international practices and cleanest available technologies, there are numerous site-specific and local sensitivities that still need to be addressed by the CMP development and operations plan, and potential impacts that must still be avoided or mitigated. Many of these have already been addressed and assessed within the initial environmental and social impact assessment (EIA Notification) and will be further identified in the context of an extensive community, stakeholder, and regulatory agency consultation process.

The second and final stage of the Project's Environmental and Social Impact Assessment (ESIA) is under preparation and is expected to be submitted to the Czech MoE in September 2022. The ESIA will include a detailed description of:

- The manganese production process and resulting environmental footprint of the Project;
- Results of baseline and other studies conducted to date;
- Health, safety, and environmental management plans;

- Impact assessment, impact mitigation and avoidance plans/measures;
- Socioeconomic impacts on local communities;
- Reclamation plans/objectives; and
- Acoustic and dispersion modeling results.

1.11 Project Execution Plan

In order to achieve a commencement of commercial production by Q1, 2027, an aggressive front-end initiative must be established. The project should transition from the FS Phase to EPCM in the first quarter of 2023, at which point the company expects to award an EPCM contract. Tender preparations are currently underway and expected to be issued in mid-September 2022. The project is anticipated to move forward in two phases:

- Phase 1 – Upon award of EPCM contract, initial work will involve a basic engineering design phase with the main objective of finalizing and freezing the design in addition to assess further value engineering opportunities for the primary purpose of capex cost reductions and process improvements.
- Phase 2 – Full Project Execution following receipt of project financing and investment decision by the company, concurrent with receipt of major permits and will include a continuation of detailed design, procurement, construction team mobilization, construction, and commissioning.

A Level 1, Project Development Schedule has been prepared during the FS in order to outline the overall timeline and key constraints. The critical path of the project currently falls through the environmental impact assessment, detailed engineering, construction, and commissioning phases.

Based on preliminary guidance by BGRIMM along with quotes received from local construction companies, the detailed design phase is estimated to be 18 months (inclusive of basic design), during which time long lead equipment is identified and ordered. Construction duration of 30 months has been advised due to the small and restricted plant site working area, process complexity, careful interface required with the local community, and labour work hour restrictions in the Czech Republic.

1.12 Logistics

Pinnacle Logistics Solutions conducted a high level logistics study for the CMP project, with particular focus on current major transportation networks available for transport to the site. The basis of the FS was supply of process related equipment from China, along with local supply of materials and labour. Based on this approach, it is envisioned that a combination of road, rail, and ocean transportation should be considered and further investigated.

1.13 Capital and Operating Cost Estimates

1.13.1 Capital Cost Estimate

The total estimated initial capital cost for the design, construction, installation, and commissioning of the CMP is USD\$757.4 million. Table 1-5 shows a summary breakdown of the initial capital cost. This total includes all direct costs, indirect costs, Owner's costs, and contingency.

The capital cost estimate produced for the CMP is classified as a Class 3 for the FS with an expected accuracy of -10% to +20% according to the American Association of Cost Engineering (AACE). All costs are shown in United States Dollars (USD) unless otherwise specified.

Table 1-5: Capital Cost Summary

Area		Cost (USD\$ million)
Direct Costs		
10	Overall Site	57.5
30	Tailings Extraction	4.6
35 & 40	Process	352.8
50	Residue Management	5.6
70	On-site Infrastructure	82.9
Direct Cost Subtotal		503.4
Indirect Costs		
90	Project Indirect Costs	128.4
98	Owner's Costs	47.2
Indirect Cost Subtotal		175.6
99	Contingency	78.4
Total		757.4

The base currency of the estimate is USD. Tetra Tech used the foreign currency exchange rates shown in Table 1-6 where applicable. The foreign exchange rates are based on three-year average foreign exchange rates, up to May 31, 2022.

Table 1-6: Foreign Exchange Rates

Base Currency (USD\$)	Foreign Currency
1.00	CAD\$1.30
1.00	CZK22.43 Kč
1.00	EUR€0.87
1.00	RMB¥6.71

1.13.2 Operating Cost Estimate

On average, the on-site operating costs are estimated as USD\$194.79/t of CMP tailings reprocessed, or USD\$4.43/kg manganese metal produced (equivalent). The on-site operating costs are defined as the direct operating costs, including CMP tailings extraction, processing, water treatment, residue dry stacking, site servicing, and G&A costs, and excluding offsite costs, such as product freight costs, sales related costs, government royalties, which are included in the economic analysis (Section 22.0).

The estimates are based on an average annual plant feed rate of approximately 1.1 Mt of the CMP tailings, or an average annual manganese metal production of 47.5 kt (tMn equivalent in HPEMM and HPMSM, ranging from 45,582 to 49,428 t/a of manganese), excluding the first ramp-up year. Table 1-7

shows the life of project (LOP) average cost breakdown for various areas and Figure 1-9 shows the cost distribution. The major cost for the CMP is the HPEMM and HPMSM processing cost (Figure 1-10), which accounts for approximately 73.4% of the total cost, excluding service costs required for water and steam supply and water treatment. A contingency of 5% is included in the estimate.

Table 1-7: Life-of-Project Average HPEMM and HPMSM Production Operating Cost Summary

Area	Unit Operating Cost	
	(USD\$/t processed)	(USD\$/kg Mn)*
Tailings Extraction	2.44	0.05
Magnetic Separation, HPEMM and HPMSM Processing	143.18	3.26
Site Services and Water Treatment	25.46	0.58
Tailings Stacking/Storage	0.66	0.02
G&A	13.78	0.31
Contingency on Operating Costs	9.28	0.21
Total Operating Cost	194.79	4.43

Note: Unit cost per kilogram manganese metal produced (equivalent) contained in HPEMM and HPMSM.

Figure 1-9: Overall Operating Cost Distribution by Area

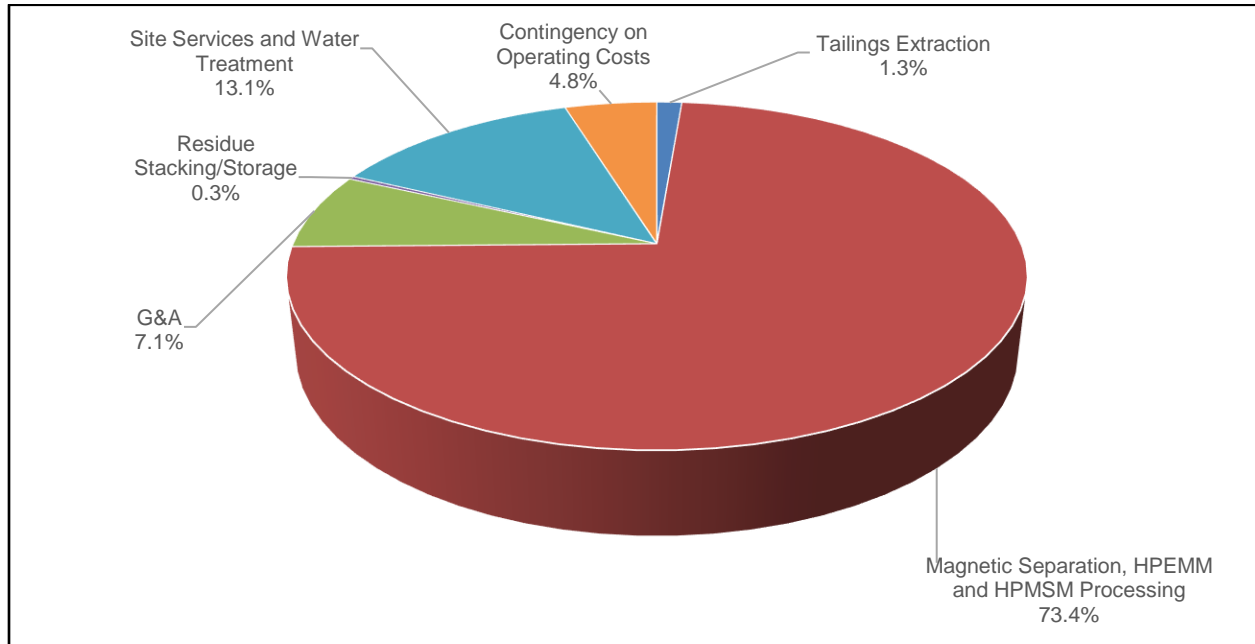
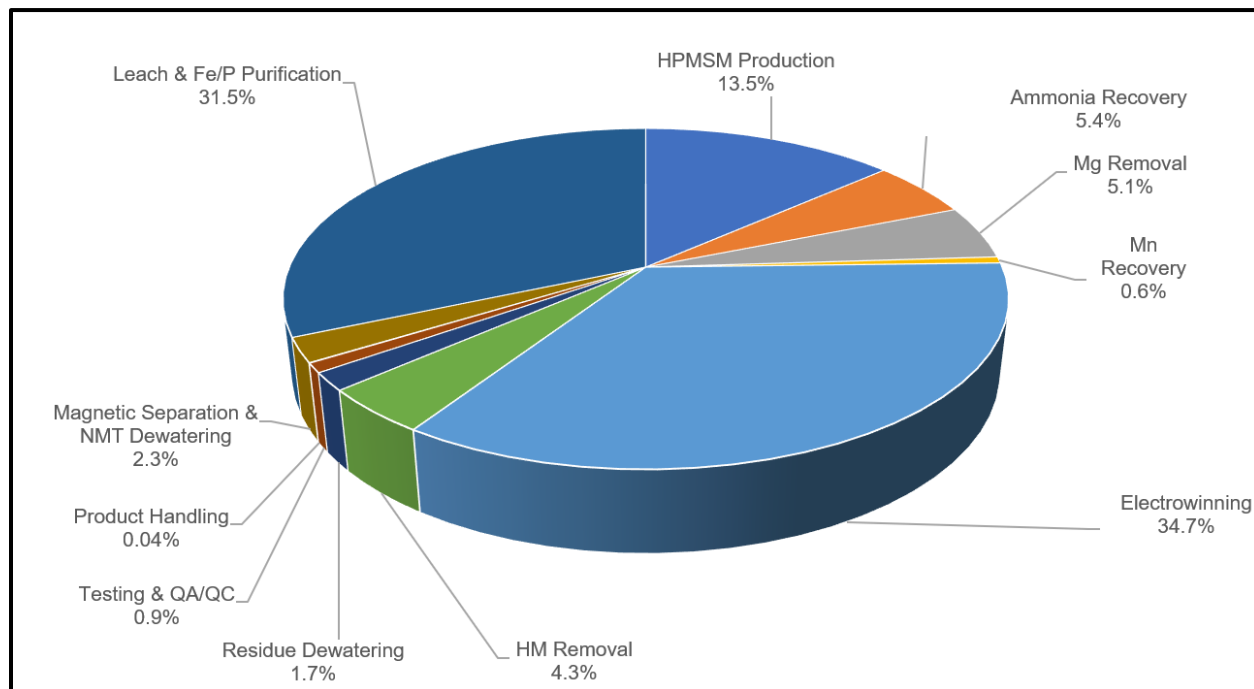


Figure 1-10: Processing Operating Cost Distribution by Area



1.14 Highlights of Independent HPEMM and HPMSM Market Study

EMN commissioned the independent research and consultancy firm of CPM Group LLC (CPM or CPM Group) to provide an HPEMM and HPMSM product market outlook study for the CMP. The CPM team prepared a comprehensive market research report, including an extended executive summary of the report that summarizes market information for high purity manganese products, including market demand and supply and projected HPEMM and HPMSM prices. The Extended Executive Summary of the CPM market outlook entitled “Market Outlook for High-Purity Electrolytic Manganese Metal and High-Purity Manganese Sulfate Monohydrate,” dated July 06, 2022, is reproduced in Section 19.0 of this report. The following represents selected highlights from the Extended Executive Summary.

Electrolytic manganese metal (“conventional” or “standard quality” EMM containing ~99.7% Mn) is used principally by comparatively small markets of steel and aluminium alloys, while manganese sulphate monohydrate (MSM, 98% $\text{MnSO}_4 \cdot \text{H}_2\text{O}$) is used mainly by the agrochemical and pharmaceutical industries. Only approximately 8 - 10% of all manganese mined is processed into EMM and MSM, while the vast majority is used for the production of ferroalloys: silicomanganese and ferromanganese (60 - 80% Mn).

These niche markets behave more like high-tech product markets or specialized chemical markets than traditional metal markets. Prices paid depend more on the purity (or lack of certain impurities) of the material rather than on the underlying manganese prices in the ferroalloys industry.

The number of high purity Mn producers is very limited: HPEMM is produced by three plants in China and one plant in South Africa (total output in 2021: 33,500 t produced by one plant in South Africa and one in China). HPMSM is produced by 16 plants in China, 1 in Belgium, and 4 small operations in Japan (total output in 2021: 296,000 t of HPMSM at 32% Mn).

Traditional applications for HPEMM are mainly in steel alloys, super alloys, aluminium alloys, and welding powders. In 2021 approximately 23% was used in the production of rechargeable batteries (through its conversion to high purity manganese sulphate solution [HPMSS] by precursor and battery makers). The use of HPEMM for the production of battery cathode precursors is expected to increase in the future in absolute numbers.

Production of rechargeable lithium-ion batteries (Li-ion or LiB) for electric vehicles (EVs) is expected to dominate the market for HPEMM and HPMSM over the next two decades, dwarfing any other application for these products. Following E-Source's research into battery markets and combining it with its own research, CPM forecasts a 20-fold increase in the use of manganese in rechargeable Li-ion batteries between 2021 and 2036.

Europe will play an important part in this EV revolution, with 18 rechargeable battery factories already in operation and 56 expected to be operational by 2031. Europe is expected to become the second most important centre (after China) of the global electric car and battery industries. Major car makers like Volkswagen, Stellantis, Renault-Nissan, and Volvo declared their intentions to make 70 - 100% of their vehicles produced in Europe electric by 2031. EMN's Chvaletice project is strategically positioned to become an important integral part of the European supply chains for these industries.

Manganese Demand from Batteries

Although battery use currently accounts only for a very small fraction of overall manganese consumption (approximately 2%), this specialized sub-sector is expected to achieve a double-digit compound annual growth rate (CAGR) over the next two decades and should be on the radar of every manganese producer.

Secondary batteries are also known as rechargeable batteries. One particular type of secondary battery, the lithium-ion battery (also called Li-ion or LiB), has recorded an extraordinary growth in demand: production of these batteries since 2010 grew at a rate of 25% p.a. (CAGR). One of the applications for Li-ion batteries is the propulsion of EVs. Demand for batteries for EVs is expected to grow at a CAGR of 25% between 2021 and 2031 and at a slightly slower rate (around 10% CAGR) for the period 2031-2041. The majority of chemistries using manganese for secondary battery production require HPMSM as the feedstock. A very small proportion (the LMO chemistry, <1% of battery market) needs manganese in the form of the EMD, but these are likely to be discontinued after 2025.

CPM's forecast for manganese use in Li-ion batteries also includes other battery applications such as Energy Storage Systems (ESS) (grid-electricity storage or renewable sources electricity storage) and consumer electronics. However, the demand from batteries for EVs is likely to dominate the battery market and is expected to claim approximately 87% market share by 2025.

Global Battery Industry

The Li-ion battery industry has its own structure and supply chain with many specialized manufacturers. A prospective producer of HPEMM and/or HPMSM, such as EMN, is positioned at the beginning of the chain as a supplier to the makers of precursor materials that are used in making cathodes. EMN can sell its products to different manufacturers depending on the level of supply chain integration by the various battery and EV manufacturers: some make just cathode powders or cathodes, and others (e.g., Tesla) have many stages of battery production within their manufacturing operations. The ultimate product is a battery pack sold to or made by an EV manufacturer.

Until 2018, China, Japan, and Korea accounted for almost 90% of the world's Li-ion battery cell production. Ramping up of production in the Tesla 'Gigafactory' in Nevada has brought the USA into second place, while Europe barely registered as a battery-making region. Since then, a lot has changed,

and today (June 2022), Europe has 18 operating rechargeable battery factories, 7 of which are known as “gigafactories,” i.e., factories with an annual production capacity greater than 1 GWh. Despite the efforts of Europe and North America (five operating plants in 2021), China still dominates battery cell production accounting for approximately 70% of global capacity.

Battery Industry in Europe

Currently, there are 18 operating rechargeable battery factories in Europe, 7 of which are known as gigafactories. Their combined capacity is 62 GWh, which gives Europe an 8% share in the global market.

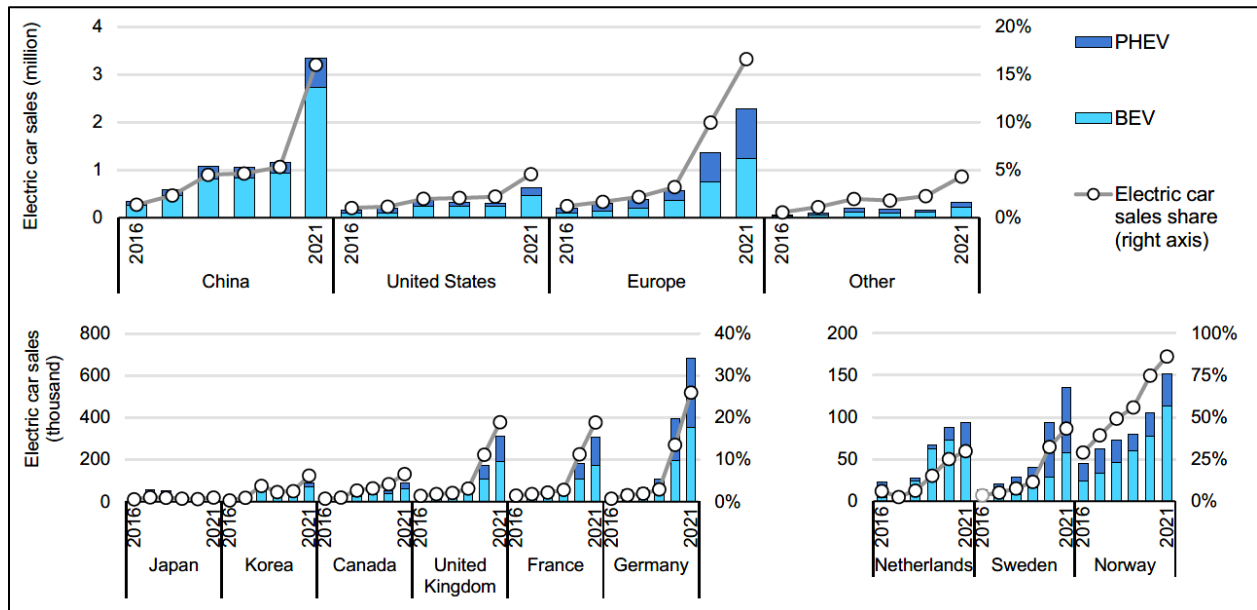
The Chvaletice Manganese Project owned by EMN is located in the Czech Republic, hence the European market for HPEMM and HPMSM is important for this project. CPM believes that the entire planned output of the Chvaletice project can be easily consumed by the growing lithium-battery sector in Europe.

Local supply chains are being built in Europe and apart from the convenient logistics, companies within the European single market benefit from frictionless trading and strong support from the European Commission and national governments. The European Battery Alliance is a powerful body created by the EU to ensure that the EV industry in Europe secures all the regulatory approvals and funding required. The Chvaletice Manganese Project currently stands to become the only primary producer of manganese products for the battery industry within the EU, making it of significant potential strategic importance in the context of the creation of a European battery raw materials supply chain.

Electric Vehicles Market

According to battery industry forecasts, EVs will generate 87% of rechargeable battery demand as soon as 2025. This share makes electric cars a key driver of demand for cathode materials, including manganese.

Figure 1-10: Electric Car Registrations and Sales Share (2016 – 2021)



Electric car sales accounted for 9% of the global car market in 2021 – four times their market share in 2019. All the net growth in global car sales in 2021 (of any propulsion) came from electric cars. Sales were highest in China, where they tripled relative to 2020 to 3.3 million after several years of relative stagnation, and in Europe, where they increased by two-thirds year-on-year to 2.3 million. More electric

cars were sold in China in 2021 (3.3 million) than in the entire world in 2020 (3.0 million). Together, China and Europe accounted for more than 85% of global electric car sales in 2021, followed by the United States (10%), where they more than doubled from 2020 to reach 630,000. The increases are illustrated in Figure 1-10.

Looking into the future, the IEA's base case (the so-called STEP scenario) projects 2030 annual EV sales reaching 25.5 million units, 86% of which will be cars, and the remaining 14% vans, trucks, and buses.

Energy Storage Systems

A sector which seems to have a double-digit growth potential in driving the demand for Li-ion batteries is Energy Storage Systems (ESS), which store grid energy generated at times of low demand to be used later, during peak times, or store electricity generated by renewable generators. Peak shifting (which accounts for the vast majority of battery usage on the grid) is gravitating towards Li-ion because of its small footprint, low maintenance, high efficiency, and long life. Lithium batteries also have other advantages: production is becoming ubiquitous (because of the EV revolution), costs are declining, and in 5 - 8 years' time, there will be a surplus supply of used EV batteries with decreased capacity¹ (due to aging/cycle life) that can be used for grid storage.

HPEMM and HPMSM Supply Demand Balance

The HPEMM and HPMSM markets are going to be radically transformed over the coming decades as a result of the 'EV revolution'. Most, but not all, of the lithium-ion batteries that power EVs are expected to use manganese in their cathodes, and these manganese-intensive types of battery chemistries are likely to dominate the battery market for the next two decades.

As a result, CPM expects that the demand for manganese from the battery sector will increase 13 times between 2021 and 2031 (from 90 kt to 1.1 Mt of manganese contained) and 50 times between 2021 and 2050 (to 4.5 Mt).

Such a massive demand increase requires a supply response, but the currently known expansions and new projects do not come anywhere near to satisfying this demand. What is unknown is what other market entrants and capacities may appear 15 to 20 years down the line. It is also worth remembering that the EV market is still a nascent industry, and technologies may change (to less or more manganese-intensive cathode chemistries). This, however, is not as likely in the next 10-15 years, as having made their investments, automotive and battery companies will want the return on their capital and are unlikely to make radical changes to their plants and technologies lightly.

The manganese product that battery makers ultimately need is HPMSS, the soluble form of HPMSM (powder), with many buying HPEMM (metal) and to make HPMSS in-house or buying HPMSM to make the solution. As the industry matures, CPM expects that battery cathode makers are more likely to buy more third-party HPMSM and use less HPEMM. Therefore, it is very much an "either/or" case.

CPM's assessment of the industry indicates that there are very few large-capacity HPEMM projects planned at the moment, but it is difficult to say what projects might appear in 15 or 20 years' time. There are currently six non-Chinese HP Mn projects which are likely to come on stream before 2030. These projects add up to 221 ktpy of new supply of HP Mn. When added to the current declared (but not fully utilized) production capacity of max 180 ktpy, they bring the total capacity available in 2031 to 401 ktpy

¹ EV batteries need replacement when they cannot hold more than 80% of their original nameplate capacity.

of metal contained. Meanwhile, 2031 projected HP Mn demand from the battery sector alone stands at 1,094 ktpy (1,127 ktpy when metallurgical uses are included). This creates a supply deficit of 726 kt.

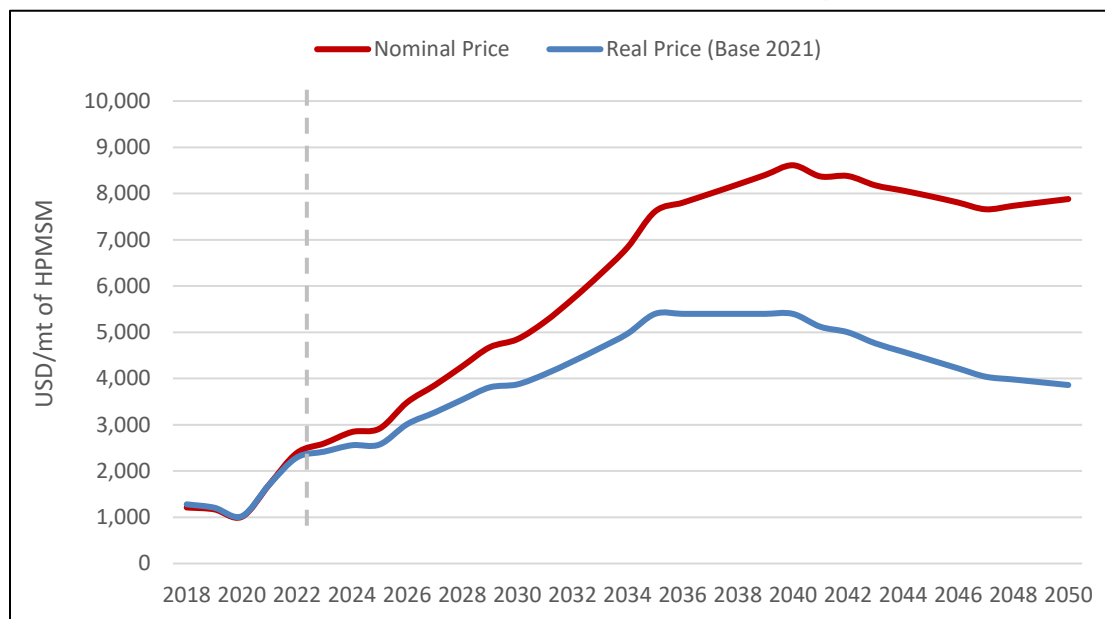
CPM also considered new HP Mn supply from recycling old EV batteries. Assuming 50% recycling rate and 100% Mn recovery (unlikely), this supply stream could satisfy 6% of 2031 HP Mn demand. With all the above supply corrections, the 2031 deficit comes down from 726 kt to 475 kt. If battery demand continues to grow as expected and no new projects come to the market, the deficit would increase to one million t by 2037. If this deficit is to be reduced to zero, the HP Mn industry would have to increase its capacity 11-fold (and produce at a close-to-100% utilization rate).

HPPEMM and HPMSM Price Outlook

The base price modelled in this forecast is the HPMSM price “Ex Warehouse China”, based on reference pricing reported by Asian Metal (AM), Argus Media, and Shanghai Metal Markets (SMM). Various modifying factors (cost of freight, different premiums) are added to arrive at the European price and a North American price, which are then plotted and shown in tables. The European price is assumed to be on a Delivered, Duty Paid (DDP) basis, i.e., at the gate of a cathode plant. Berlin was used as a proxy for numerous Central and Eastern European locations of battery factories

HPMSM prices are expected to remain at elevated levels as a result of the developing deficit. The prices of ‘standard quality’ EMM (product for the metallurgical industry, 99.7% Mn) and both the high purity product HPMSM (chemical product for batteries) and HPPEMM (metallurgical and battery applications) seem to be more and more divergent according to previous CPM Group forecast reports.

Figure 1-11: HPMSM Price Projection in Europe
Prices delivered to Central/Western Europe (DDP)



Source: CPM Group’s calculations based on supply-demand assessment and historical prices reported by Bloomberg, AM, Argus, SMM, and industry

Looking forward, we see the HPMSM prices in China remaining strong and becoming more and more divergent from the metallurgical quality EMM prices. The looming deficit of the ‘battery grade’ HPMSM described elsewhere in this report will hit China badly unless it expands its production base. In CPM’s projections, we allowed for an additional 490 ktpy of new Chinese production (2.8 times the 2021 output), including 327 ktpy of as-yet-unannounced new capacity. We believe such a new capacity will be

announced in the coming years under intense demand pressure. CPM’s price forecast for HPMSM is shown in Figure 1-11.

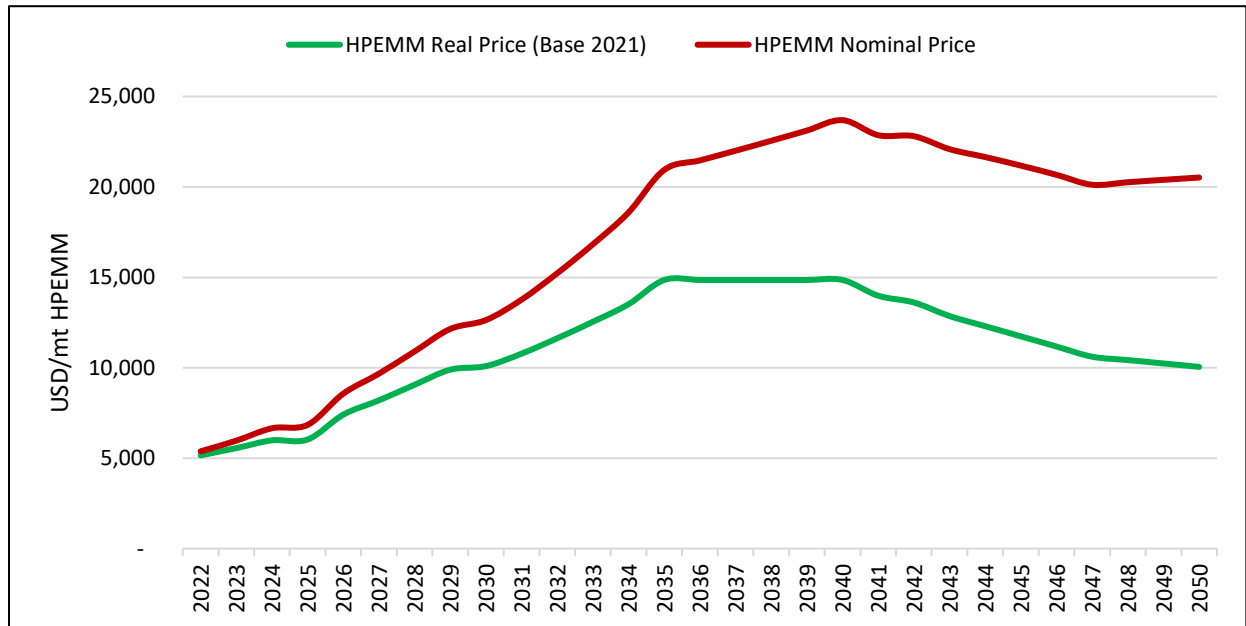
The same logic applies to North American prices. There is no HPMSM production in North America at present. When Prince’s Tampico plant in Mexico is converted to produce HPMSM, this will be the first North American producer of this material. Its planned output (including Phase Two) is likely to meet only 10% of the American battery industry demand for HPMSM in 2030. More plants are needed, but for the foreseeable future, most of the HPMSM needed will be imported, predominantly from China.

CPM expects a significant diversification of qualities (and premiums) within the ‘high-purity’ spectrum of HPEMM and HPMSM. The critical factor with these new chemistries is not so much the manganese content, but rather the levels of impurities contained within the last 0.1% of the chemical composition of these products

CPM believes that post-2025, the demand for HPEMM may significantly increase, leading to strong competition for supplies between metallurgical users and battery industry users of HPEMM. The latter is likely to be able to bear higher prices and exert more ‘gravitational force’ on the pricing, and as a result, the HPEMM pricing is forecast to be derived from the manganese sulphate price rather than the price of the “metallurgical only” 997 EMM. Therefore, the price of HPEMM would be established at a discount to HPMSM price² rather than at a “back-calculated” premium to the 997-EMM price. Despite the increased demand for HPEMM, we still see HPMSM as a dominant product on the market and hence a benchmark for pricing of high purity manganese products used in the battery industry.

CPM’s forecast annual prices in Europe through 2050 of manganese flake (EMM 99.7% Mn) and HPEMM (99.9% Mn) are presented in Section 19.0 of this report and summarized in Figure 1-12.

Figure 1-12: HPEMM Price Projections in Europe
Prices delivered to Central/Western Europe (DDP)



² Per unit of metal contained

CPM’s forecast annual prices through 2050 of manganese metal contained in HPMSM and HPMSM are presented in Chapter 19 of this report. It should be noted that prices on CPM’s graphs and tables are expressed in real 2022 US dollars, unless otherwise stated.

1.15 Economic Analysis

Tetra Tech completed a pre-tax economic analysis based on estimated costs and revenues for extracting and reprocessing the tailings from the Chvaletice deposit. The economic analysis is based on the sale of two products: HPEMM and HPMSM. The product prices used for the analysis were based on the projection by CPM. The economic analysis concluded the following pre-tax financial results:

- Pre-tax NPV of USD\$1,750 million at an 8% discount rate
- Pre-tax IRR of 24.9%
- Pre-tax payback period of 3.6 years.

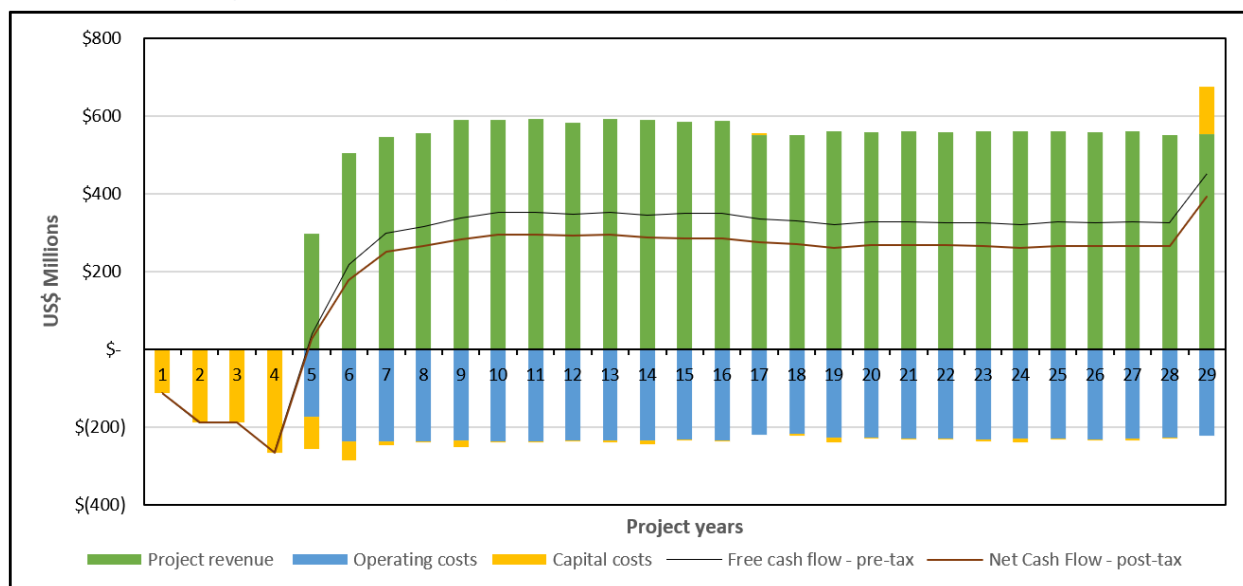
Grant Thornton Tax & Accounting s.r.o. (Grant Thornton), based in the Czech Republic, prepared both the Czech tax depreciation calculations based on the capital expenditure information and the allocation of such expenditures into the Czech tax depreciation groups, and the Czech corporate income taxes payable for the CMP economic analysis based on existing income tax legislation in the Czech Republic.

The post-tax economic analysis for the life of the project yielded the following financial results:

- Post-tax NPV of USD\$1,342 million at an 8% real discount rate
- Post tax IRR of 21.9%
- Post-tax payback period of 4.1 years

Figure 1-13 shows a summary of the financial modelling results in graphical form.

Figure 1-13: Summary of Pre-Tax and Post-Tax Financial Results



1.16 Recommendations

The CMP is considered to be economically viable based on the results of the work presented in this report, and the Project should proceed to the next development phase. Tetra Tech recommends additional engineering and testing for refinement of the processing and material properties of both tailings and residue and investigation into additional geotechnical data related to the next phase of detailed engineering work. Also process optimization, potential cost savings, and additional revenue generating opportunities should be further investigated, including the planned demonstration plant campaign. Table 1-8 shows the cost breakdown by discipline for future recommended work. Recommendations are further detailed in Section 26.0.

Table 1-8: Estimated Costs for Recommended Future Work

Area	Estimated Cost (USD\$)
Tailings Extraction	427,000
Mineral Processing and Metallurgical Testing*	460,000
Recovery Methods/Trade-off Studies	50,000
Infrastructure	200,000
Marketing and Transportation Studies	180,000
Total Cost	1,317,000

Note: Excludes costs already allocated for operation of the Demonstration Plant

RISK FACTORS

An investment in the Shares should be considered highly speculative due to the nature of the Company's business and its earlier stage of development. Investments in mineral exploration and development issuers, such as the Company, involve a significant degree of risk. The development of the Chvalětice Manganese Project and exploration and development of other projects is highly speculative, characterized by significant inherent risk, and the Chvalětice Manganese Project and any other projects may not be successful. Anyone investing in the Company must rely on the ability, expertise, judgement, discretion, integrity and good faith of the management of the Company. There is no guarantee that the Company will be able to secure financing to meet the future development needs of its mineral projects or its growth strategy.

The risks and uncertainties described below are not the only risks and uncertainties that the Company faces. Additional risks and uncertainties of which the Company is not aware or that the Company currently believes to be immaterial may also adversely affect the Company's business, financial condition, results of operations or prospects. If any of the possible events described below occur, the Company's business, financial condition, results of operations or prospects could be materially and adversely affected.

This AIF also contains forward-looking statements that involve risks and uncertainties. The Company's actual results may differ materially from those anticipated in these forward-looking statements as a result of various factors, including the risks described below and elsewhere in this AIF. See "*Forward Looking Statements*".

Risks Relating to the Business of the Company and Industry-related Risks

Uncertainty of Development Projects, including the Chvalětice Manganese Project, require significant expenditures during the development phase before production is possible.

The economic feasibility of development projects is based on many factors such as: estimation of mineral reserves, anticipated metallurgical recoveries, environmental considerations and permitting, and anticipated capital and operating costs of these projects. Development projects are uncertain, and it is possible that actual capital and operating costs and economic returns will differ significantly from those estimated for a project prior to production. Particularly for development projects, estimates of proven and probable mineral reserves and cash operating costs are, to a large extent, based upon the interpretation of geologic data obtained from drill holes and other sampling techniques, and feasibility studies that derive estimates of cash operating costs based upon anticipated tonnage and grades of ore to be mined and processed, the configuration of the ore body, expected recovery rates of metals from the ore, estimated operating costs, anticipated climatic conditions and other factors.

As a result, it is possible that actual capital and operating costs and economic returns will differ significantly from those currently estimated for a project prior to production. Any of the following events, among others, could affect the profitability or economic feasibility of the Chvalětice Manganese Project: unanticipated changes in grade and tons of ore to be mined and processed, unanticipated adverse geological conditions, unanticipated metallurgical recovery problems, incorrect data on which engineering assumptions are made, availability and costs of labour, costs of processing and refining facilities, availability of economic sources of power, adequacy of water supply, reliability of processing facilities, adequate access to the site, unanticipated transportation costs, government regulations (including regulations with respect to prices, royalties, duties, taxes, permitting, restrictions on production, quotas on exportation of minerals and environment), fluctuations in metals prices, accidents,

labour actions, the availability and delivery of critical equipment, successful commissioning and start-up of operations, including the achievement of recovery rates and force-majeure events.

In addition, fluctuations in the prices and availability of commodities consumed as part of development and processing activities, such as natural gas, diesel, oil, electricity, sulphuric acid and other reagents can significantly impact the operating cost of development activities. These price fluctuations can be unpredictable, can occur over short periods of time and may have a materially adverse impact on operating costs or the timing of future costs. It is not unusual in new operations to experience unexpected problems during the start-up phase and delays can often occur at the start of production. It is likely that actual results for the Chvalětice Manganese Project will differ from current estimates and assumptions described in the Technical Report, and these differences may be material. In addition, experience from actual processing operations may identify new or unexpected conditions that could reduce production below, or increase capital or operating costs above current estimates. If actual results are less favourable than currently estimated, the Company's business, results of operations, financial condition and liquidity could be materially adversely affected.

The Company's Mineral Reserves and Mineral Resources are estimates only and no assurance can be given that the anticipated tonnages and grades will be achieved, that the indicated level of recovery will be realized, or that Mineral Reserves could be recovered and processed profitably.

No assurance can be given that the anticipated tonnages and grades in respect of Mineral Reserves and Mineral Resources disclosed in the Technical Report will be achieved, that the indicated level of recovery will be realized or that Mineral Reserves will be processed profitably. Actual Mineral Reserves may not conform to geological, metallurgical, or other expectations, and the volume and grade of ore recovered may differ from estimated levels. There are numerous uncertainties inherent in estimating Mineral Reserves and Mineral Resources, including many factors beyond the Company's control. Such estimation is a subjective process, and the accuracy of any Mineral Reserve or Mineral Resource estimate is a function of the quantity and quality of available data and of the assumptions made and judgments used in engineering and geological interpretation. In addition, short-term operating factors relating to the Mineral Reserves, such as the need for orderly development of the ore bodies or the processing of new or different ore grades, may require significant capital expenditures in any particular accounting period. In addition, there can be no assurance that recoveries in small scale laboratory and/or pilot plant tests will be duplicated in larger scale tests under on-site conditions or during production. Lower market prices, increased production costs, reduced recovery rates and other factors may result in a revision of its Mineral Reserve estimates from time to time or may render the Company's Mineral Reserves uneconomic to exploit. Mineral Reserve data is not indicative of future results of operations. Any material reductions in estimates of manganese mineralization, or of the Company's ability to extract and process this manganese mineralization, could have a material adverse effect on the Company's results of operations or financial condition.

The Company's Rights and Title to its Mineral Properties may be Challenged

The granting and transfer, by the Czech authorities, of the original Chvalětice Manganese Project's exploration license to Mangan and its predecessor holders was reviewed by the Company prior to the acquisition of Mangan. The Company was granted a second exploration license on May 4, 2018 covering the slopes on the perimeter of the tailings piles and was granted a Preliminary Mining Permit on April 17, 2018 covering the areas included in the exploration licenses. In 2021, the Czech Ministry of the Environment granted Mangan an extension of its exploration licences by three years to May 31, 2026. The Ministry also granted Mangan a new Preliminary Mining Permit, valid until May 31, 2026.

Although the Company believes the Preliminary Mining Permit along with the exploration licenses secure Mangan's rights for the entire deposit, there still may be undetected title defects affecting such mineral rights. Third parties may have known or unknown valid claims underlying portions of the Company's interests, including claims from prior holders of mineral interests in the same area or technical defects in the granting or approval of mineral interests or in the transfers of any mineral interest. Title may be affected by, among other things, undetected defects, including legal defects, which could have a material adverse effect on the Company's results of operations or financial condition.

Rights to use the Surface of the Company's Mineral Properties are not Guaranteed

The Company does not control all the surface rights over the claims which comprise its Chvaletice Manganese Project. The Company will be required to negotiate the acquisition of surface rights, leases, rights of way, or other arrangements in those areas where it intends to develop its operations, and there is no guarantee the Company will be successful in negotiating with the surface rights owners, or will be able to obtain surface rights on commercially reasonable terms. The Company's interest in the Chvaletice Manganese Project could be materially adversely affected by delays or an inability to obtain surface access rights, or by challenges, regardless of merit, to existing surface access agreements.

No Guarantee that Licenses and Permits required by the Company will be Obtained or Renewed

Should additional exploration and evaluation work be anticipated after the expiry of the exploration licenses and Preliminary Mining Permit in 2026, the Company will be required to renew or extend the exploration licenses and the Preliminary Mining Permit.

The Preliminary Mining Permit forms one of the prerequisites for the application for the establishment of the Mining Lease District and represents one of the key steps towards final permitting for the project. Based on the Preliminary Mining Permit and other documents, including the Final Environmental Impact Assessment which was submitted to the Czech Ministry of Environment in 2023, Mangan has until May 31, 2026 to apply for the establishment of the Mining Lease District covering the areas included in the exploration licenses. The establishment of the Mining Lease District, the application for the final Mining Permit, and applications for permits relating to the construction of infrastructure required for the project, are required prior to any extraction and processing activities at the Chvaletice Manganese Project.

There is no assurance Mangan will be successful in establishing the Mining Lease District, or obtaining the other approvals and permits it will need from various governmental authorities relating to, among others, the following (i) mineral extraction and exploitation rights; (ii) water use rights; (iii) maintenance of title; (iv) employees; (v) health and safety; (vi) repatriation of capital and exchange controls; (vii) permits relating to the construction of infrastructure required for the project; and (viii) environmental approvals.

Material delays or failure to receive these additional permits may result in the expiration, loss or cancellation of the Company's rights.

Companies engaged in mineral extraction and operation of related processing facilities generally experience increased costs and delays in production and other schedules as a result of the need to comply with the applicable laws, regulations and permits. There can be no assurance that all future permits which the Company may require for the construction of the Chvaletice Manganese Project facilities and conduct of processing operations will be obtainable on reasonable terms, if at all, or that such laws and regulations would not have an adverse effect on any mineral project which the Company might undertake.

Failure to comply with applicable laws, regulations and permitting requirements may result in enforcement actions including orders issued by regulatory or judicial authorities causing operations to cease or be curtailed, and may include corrective measures requiring capital expenditures, care and

maintenance, installation of additional equipment or remedial actions. Parties engaged in the extraction of minerals may be required to compensate those suffering loss or damage by reason of its activities and may have civil or criminal fines or penalties imposed upon them for violation of applicable laws or regulations.

Amendments to current laws, regulations and permits governing operations and activities of companies in the recovery of minerals, or more stringent implementation thereof, could have a material impact on the Company and cause increases in capital expenditures or production costs or reduction in levels of production at producing properties or require abandonment or delays in the development of new mining properties.

Uncertainty Regarding Ability to Produce Required HPMSM, Meet Customer Requirements and Obtain Sufficient Offtake Agreements The Company has produced HPMSM from the dissolution and crystallization module at the Demonstration Plant using third-party HPEMM. The Company plans to use HPEMM produced from the Demonstration Plant for HPMSM production, but there is no assurance it will be able to produce HPMSM on terms acceptable to its potential customers.

In addition, there is no assurance the Company will be able to conclude offtake agreements on favorable terms or at all. If the Company cannot meet certain offtake agreement requirements, it will be in default under the Convertible Loan Facility and will be unable to meet project finance requirements.

Management Experience and Dependence on Key Personnel and Employees

The Company's success is currently largely dependent on the performance of the Company's directors and officers. The Company's management team has experience in the resource exploration and development business. The experience of these individuals is a factor which will contribute to the Company's continued success and growth. The Company will initially be relying on the Company's employees, board members, as well as independent consultants, for certain aspects of the Company's business. The amount of time and expertise expended on the Company's affairs by each of the Company's management team and the Company's directors will vary according to the Company's needs. The Company does not intend to acquire any key man insurance policies and there is, therefore, a risk that the death or departure of any member of management, the Company's board, or any key employee or consultant, could have a material adverse effect on the Company's future. Investors who are not prepared to rely on the Company's management team should not invest in the Company's securities.

Uncertainty of Additional Funding

Sufficient funding may not be available to the Company for further exploration and development of its property interests. Failure to obtain such additional financing could result in delay or indefinite postponement of further exploration and development of the Company's properties. Accordingly, additional financing will be required to operate its business and to continue with exploration on its properties, and additional capital may not be available when needed, if at all, or be available on terms favourable to the Company. Any unexpected costs, problems or delays could severely impact the Company's ability to continue exploration and development activities and obtain additional financing. In addition, it is a requirement under the Convertible Loan Facility that the Company secure a strategic investor. There is no certainty the Company will be able to secure a strategic investor on favorable terms or at all, and if the Company cannot secure a strategic investor it will not meet its obligations under the Convertible Loan Facility.

Ability to Meet Conditions under Convertible Loan Facility

The Company is subject to restrictive covenants and numerous conditions under the Convertible Loan Facility. The Company's Convertible Loan Facility is secured by a first ranking charge over the assets of

Mangan including by a pledge of the shares of Mangan, and by a guarantee from the Company. Events may occur in the future, including events out of the Company's control, that could cause the Company to fail to satisfy its obligations under the Convertible Loan Facility or other debt instruments that may arise. In such circumstances, amounts drawn under the Company's debt agreements may become due and payable before the agreed maturity date, and the Company may not have the financial resources to repay such amounts when due. If the Company were to default on its obligations under the Convertible Loan Facility or other secured debt instruments in the future, the lender(s) under such debt instruments could enforce their security and seize the Company's assets.

Negative Cash Flow, No History of Production and No Revenue from Operations

The Company has a limited history of operations, with no revenues and no history of earnings, cash flow or profitability. The Company has had negative operating cash flow since the Company's inception, and the Company will continue to have negative operating cash flow for the foreseeable future given that the Chvaletice Manganese Project is at the development stage. As such, the Company is subject to many risks common to such enterprises, including under-capitalization, cash shortages, limitations with respect to personnel, financial and other resources and lack of revenues. The Company has no source of operating cash flow and no assurance that additional funding will be available for development of the Chvaletice Manganese Project when required. No assurance can be given that the Company will ever attain positive cash flow or profitability.

Infectious Diseases

Infectious diseases or the threat of outbreaks of viruses or other contagions or epidemic diseases, including the COVID-19 pandemic, could have a material adverse effect on the Company by causing operational and supply chain delays and disruptions (including as a result of government regulation and prevention measures), labour shortages and shutdowns, social unrest, breach of material contracts and customer agreements, government or regulatory actions or inactions, increased insurance premiums, decreased demand or the inability to sell and deliver high-purity manganese products, declines in the price of high-purity manganese products, delays in permitting or approvals, governmental disruptions, capital markets volatility, or other unknown but potentially significant impacts.

In addition, governments have imposed and may continue to impose more strict emergency measures in response to the threat or existence of an infectious disease. The full extent and impact of the COVID-19 pandemic is unknown and to date has included extreme volatility in financial markets, a slowdown in economic activity, extreme volatility in the prices of commodities and has raised the prospect of a global recession. The international response to COVID-19 has led to significant restrictions on travel, temporary business closures, quarantines, global stock market volatility and a general reduction in global consumer activity. At this time, the Company cannot accurately predict what effects these conditions will have on its project development operations or financial results, including the severity of the disease, the duration of the outbreak, and the length of the travel restrictions and business closures that have been or may be imposed by the governments of impacted countries. In addition, a significant outbreak of contagious diseases in the human population, such as COVID-19, could result in a widespread health crisis that could adversely affect the economies and financial markets of many countries, resulting in an economic downturn that could result in a material adverse effect on prices and demand for commodities, investor confidence, and general financial market liquidity, all of which may adversely affect the Company's business and the market price of the Company's common shares. Accordingly, any outbreak or threat of an outbreak of an epidemic disease or similar public health emergency, including COVID-19, could have a material adverse effect on the Company's business, financial condition and results of operations. As at the date hereof, the duration of any business disruptions and related financial impact of the COVID-19 pandemic cannot be reasonably estimated. The Company continues to closely monitor and assess the impact of COVID-19 on its planned activities and available financing opportunities.

Russia-Ukraine Conflict

The outcome of the ongoing Russian invasion of Ukraine is uncertain and is likely to have wide ranging consequences on the peace and stability of the region and the world economy. Certain countries, including Canada and the Czech Republic, have imposed financial and trade sanctions against Russia and such sanctions may have far reaching effects on the global economy. As Russia is a major exporter of oil and natural gas, any disruption of supply of oil and natural gas from Russia could cause a significant worldwide supply shortage of oil and natural gas and significantly impact pricing of oil and gas and energy prices in general, which could also have a significant adverse impact on the world economy. The long-term impacts of the conflict and the sanctions imposed on Russia remain uncertain.

These and other impacts of the Russia-Ukraine conflict or other armed conflict could also have the effect of heightening many of the other risks described in these "Risks Relating to the Business of the Company and Industry-related Risks." The ultimate impact of the Russia-Ukraine conflict on the Company's business is difficult to predict and depends on factors that are evolving and beyond the Company's control, including the scope and duration of the conflict, as well as actions taken by governmental authorities and third parties in response. The Company may experience material adverse impacts to its business, results of operations, financial condition and its share price as a result of any of these disruptions, even after the Russia-Ukraine conflict has subsided.

The Company relies on International Advisors and Consultants

The Company conducts the majority of its activities in the Czech Republic. The legal and regulatory requirements in this country with respect to conducting mineral exploration and mining activities, banking system and controls, as well as local business culture and practices are different from those in Canada and the United States. The officers and directors of the Company must rely, to a large extent, on the Company's local legal counsel and local consultants retained by the Company in order to keep abreast of material legal, regulatory and governmental developments as they pertain to and affect the Company's business operations, and to assist the Company with its governmental relations. The Company must rely, to some extent, on those members of management and the Company's board of directors who have previous experience working and conducting business in the Czech Republic in order to enhance its understanding of and appreciation for the local business culture and practices. The Company also relies on the advice of local experts and professionals in connection with current and new regulations that develop in respect of banking, financing, labour, litigation and tax matters in this jurisdiction. Any developments or changes in such legal, regulatory or governmental requirements or in local business practices are beyond the control of the Company. The impact of any such changes may adversely affect the business of the Company.

Operating Hazards and Risks

Mineral exploration and development involve risks, which even a combination of experience, knowledge and careful evaluation may not be able to overcome. Operations in which the Company has a direct or indirect interest will be subject to hazards and risks normally incidental to exploration, development and production of minerals, any of which could result in work stoppages, damage to or destruction of property, loss of life and environmental damage.

The Company currently carries a US\$5 million general liability policy to insure against such risks, and also ensures that its contractors have adequate insurance coverage. However, the nature of these risks is such that liabilities might exceed any insurance policy limits, the liabilities and hazards might not be insurable, or the Company might not elect to insure ourselves against such liabilities due to high premium costs or other factors. Such liabilities may have a materially adverse effect upon the Company's financial condition.

Competition and the Use of Alternate Battery Chemistries

The mineral exploration, development, and extraction industry is intensely competitive. The Company competes with other mining companies, many of which have greater financial resources and technical expertise. Competition in the mining industry is primarily for: (i) properties which can be developed and can produce economically; (ii) the technical expertise to find, develop, and operate such properties; (iii) labour to operate such properties; and (iv) capital to fund such properties. Such competition may result in the Company being unable to acquire desired properties, to recruit or retain qualified employees and consultants or to acquire the capital necessary to fund its operations and develop its properties. The Company's inability to compete with other mining companies for these resources could have a material adverse effect on the Company's business, financial condition, results of operations, cash flows or prospects.

Many competitors not only explore for and mine minerals but conduct refining and marketing operations on a worldwide basis. In the future, the Company may also compete with such mining companies in refining and marketing its products to international markets. These companies may be better funded, have lower production costs, have stronger relationships with customers of manganese products may be better capable of securing access to markets for their competing manganese products. Additionally, while manganese-based cathode batteries continue to dominate the electric vehicle battery industry and are expected to continue to do so, technological breakthroughs may radically change the battery chemistry landscape. While some electric vehicle battery manufacturers have announced significant investments in gigafactories intended to produce manganese-based batteries, some segments of the electric vehicle battery industry have opted for batteries using no manganese. Any inability to successfully compete with established competitors and any technological breakthroughs which result in the use of alternate battery chemistries requiring less manganese or no manganese could also have a material adverse effect on the Company's business, the market and prices for its products, financial condition, results of operations, cash flows or prospects.

Country Risks

The Chvaltice Manganese Project is located in the Czech Republic and therefore its activities are subject to the risks normally associated with the conduct of business in foreign countries. Investors should note that the Czech Republic is not a country with a rich mining history and projects in other nearby Eastern European countries have encountered substantial resistance from local communities at the time of development. The occurrence of one or more of these risks could have a material and adverse effect on the Company's profitability or the viability of its affected foreign operations, which could have a material adverse effect on the Company's business, results of operations, financial condition and prospects.

The Company's ability to carry on its business in the normal course in the Czech Republic may be adversely affected by political and economic considerations such as civil unrest, war (including in neighbouring states), terrorist actions, labour disputes, fraud, theft, corruption, sovereign risk, political instability, the failure of foreign parties or governments to honour contractual relations, consents, rejections or waivers granted, changing (or arbitrary) government regulations with respect to mineral processing including environmental requirements, the declaration of high-purity manganese products as strategic commodities, taxation, land tenure, foreign investments, income repatriation and capital recovery, fluctuations in currency exchange and inflation rates, import and export restrictions, challenges to the Company's title to properties, problems renewing licenses and permits, opposition to mineral extraction and processing from environmental or other nongovernmental organizations, increased financing costs, instability due to economic under-development, inadequate infrastructure, and the expropriation of property interests. In addition, the Czech Republic government, or its court system, may not recognize, protect or enforce the Company's legal rights. The Government may take action which is arbitrary or illegal under Czech, European Union or International Law. Any of these events could result in

conditions that delay or prevent the Company from exploring, developing, or ultimately operating its mineral projects.

While the Company believes that the political climate in the Czech Republic provides a suitable environment for its proposed operations, there is no guarantee against the possibility that the current, or a future, government may adopt substantially different policies or take arbitrary action which might halt exploration or development, involve the re-nationalization of private assets or the cancellation of contracts, the cancellation of mineral exploration or development, extraction and processing rights and/or changes in taxation treatment cannot be ruled out, any of which could result in a material and adverse effect on the Company's business, results of operations, financial condition and prospects.

The Company may be subject to Legal or Illegal Opposition and Legal Proceedings

The Company may be subject to regulatory investigations, civil claims, lawsuits and other proceedings in the ordinary course of its business. The results of these legal proceedings cannot be predicted with certainty due to the uncertainty inherent in regulatory actions and litigation, the difficulty of predicting decisions of regulators, judges and juries and the possibility that decisions may be reversed on appeal. Defense and settlement costs of legal disputes can be substantial, even with claims that have no merit. Management is committed to conducting business in an ethical and responsible manner, which it believes will reduce the risk of legal disputes. However, if the Company is subject to legal disputes, there can be no assurances that these matters will not have a material adverse effect on the Company's business, rights, financial condition, results of operations, cash flows or prospects.

Additionally, the Czech legal system is relatively young and continues to evolve at a rapid pace. Accordingly, there is often limited jurisprudence and authoritative opinion on commercial issues, which in turn makes legal outcomes less predictable. It may also be noted that European Union law continues to evolve in terms of interpretation and application to local laws and contracts governed thereunder. Furthermore, the legal system in the Czech Republic, like any country, has inherent uncertainties that could limit the legal protections available to the Company, which include: (i) inconsistencies between and within laws; (ii) limited judicial and administrative guidance on interpreting legislation, particularly that relating to business, corporate, mineral extraction, and securities laws; (iii) substantial gaps in the regulatory structure due to a delay or absence of enabling regulations; (iv) a lack of judicial independence from political, social and commercial forces; (v) corruption; and (vi) bankruptcy procedures that are subject to abuse, any of which could have a material adverse effect on the Company's business, financial condition, results of operations, cash flows or prospects. Furthermore, it may be difficult to obtain swift and equitable enforcement of a judgement in the Czech Republic, or to obtain enforcement of a judgement by a court of another jurisdiction, which could have a material adverse effect on the Company's business, financial condition, results of operations, cash flows or prospects.

Global Economic Uncertainty

Changes in the global economic environment have created market uncertainty and volatility in recent years. The market and demand for metal commodities and related products has in recent years been adversely affected by global economic uncertainty, reduced confidence in financial markets, the COVID-19 pandemic, bank failures and credit availability concerns. These macro-economic events negatively affected the mining and minerals sectors in general. Global financial conditions remain subject to sudden and rapid destabilizations in response to economic shocks. A slowdown in the financial markets or other economic conditions, including but not limited to consumer spending, employment rates, business conditions, inflation, fuel and energy costs, consumer debt levels, lack of available credit, the state of the financial markets, interest rates and tax rates, may adversely affect the Company's growth and profitability. Future economic shocks may be precipitated by a number of causes, including the ongoing European debt situation, a rise in the price of oil and other commodities, the volatility of metal prices,

geopolitical instability, terrorism, the devaluation and volatility of global stock markets and natural disasters. Any sudden or rapid destabilization of global economic conditions could impact the Company's ability to obtain equity or debt financing in the future on terms favorable to the Company or at all. In such an event, the Company's operations and financial condition could be adversely impacted.

The Company assesses on a quarterly basis the carrying values of its exploration and evaluation assets. Should market conditions and commodity prices worsen and persist in a worsened state for a prolonged period of time, an assessment of the Company's mineral properties for impairment may be required.

Fluctuating Mineral Prices

HPEMM and or HPMSM, high-purity manganese products, are the products intended to be produced at the Chvaletice Manganese Project. The profitability of the Chvaletice Manganese Project will be significantly affected by changes in the market prices of these products. Prices of HPEMM and HPMSM, as well as certain metals or products in the production of which HPEMM and HPMSM are consumed, such as steel and aluminum alloys, as well as lithium ion battery precursor materials, fluctuate and historically have been subject to significant annual price fluctuations and are affected by numerous factors beyond the control of the Company such as the level of interest rates, the rate of inflation, central bank transactions, world supply and demand of steel and other metals, foreign currency exchange rates, international investments, monetary systems, speculative activities, international economic conditions, political developments and the production levels and production costs in key mineral producing countries. As a result, there is no assurance that, even if commercial quantities of mineral resources are discovered, that mineral prices will be such that the Company will be profitable.

Fluctuations in the prices of HPEMM and HPMSM could adversely affect the Company's financial performance and results of operations. Further, if the market price of these metals falls or remains depressed, the Company may experience losses or asset write-downs and may curtail or suspend some or all of the Company's exploration, development and mining activities.

Inadequate Insurance, and Uninsured or Uninsurable Risks

The Company's business is subject to a number of risks and hazards. Although the Company maintains insurance to protect against certain risks in such amounts as it considers to be reasonable, its insurance will not cover all the potential risks associated with its activities, including current and any future mining operations. The Company may also be unable to obtain or maintain insurance to cover its risks at economically feasible premiums, or at all. Insurance coverage may not continue to be available or may not be adequate to cover any resulting liability. Moreover, insurance against risks such as environmental pollution or other hazards as a result of exploration, development or production may not be available to the Company on acceptable terms. The Company might also become subject to liability for pollution or other hazards which it is not currently insured against and/or in the future may not insure against because of premium costs or other reasons. Losses from these events may cause the Company to incur significant costs which could have a material adverse effect on the Company's business, financial condition, results of operations, cash flows or prospects.

Compliance with Environmental Regulations can be Costly

The Company's exploration activities, as well as the planned development of the Chvaletice Manganese Project, are all subject to environmental regulation. Regulations cover, among other things, water quality standards, land reclamation, the generation, transportation, storage and disposal of hazardous waste, the construction and operation of tailings dams, and general health and safety matters. There is no assurance that the Company has been or will at all times be in full compliance with all environmental laws and regulations or hold, and be in full compliance with, all required environmental and health and safety approvals and permits. The potential costs and delays associated with compliance with such laws,

regulations, approvals and permits could prevent the Company from economically operating or proceeding with the further development of the Chvaletice Manganese Project, and any non-compliance with such laws, regulations, approvals and permits at the Chvaletice Manganese Project could result in a material adverse effect on the Company's business, financial condition, results of operations, cash flows or prospects.

Environmental approvals and permits are currently, and may in the future be, required in connection with the Company's current and planned operations. To the extent such environmental approvals and permits are required and not obtained, the Company's plans and operations may be curtailed, or it may be prohibited from proceeding with planned exploration or development of additional mineral properties. Failure to comply with applicable environmental laws, regulations and permitting requirements may result in enforcement actions, including orders issued by regulatory or judicial authorities causing operations to cease or be curtailed, and may include corrective measures requiring capital expenditures, installation of additional equipment, or remedial actions.

There is no assurance that any future changes in environmental regulation will not adversely affect the Company's operations. Changes in government regulations have the potential to significantly increase compliance costs and thus reduce the profitability of current or future operations.

Environmental hazards may also exist on the Chvaletice Manganese Project that are unknown to the Company at present and that have been caused by previous or existing owners or operators of the property and for which the Company may be liable for remediation. Parties engaged in the extraction of minerals, including the Company, may be required to compensate those suffering loss or damage by reason of their activities and may have civil or criminal fines or penalties imposed for violations of applicable environmental laws or regulations, regardless of whether the Company actually caused the loss or damage. The costs of such compensation, fines or penalties could have a material adverse effect on the Company's business, financial condition, results of operations, cash flows or prospects.

Changes in climate conditions may affect the Company's operations

A number of governments have introduced or are moving to introduce climate change legislation and treaties at the international, national, state/provincial and local levels. Regulation relating to emission levels (such as carbon taxes) and energy efficiency is becoming more stringent. If the current regulatory trend continues, this may result in increased costs at the Company's operations. In addition, the physical risks of climate change may also have an adverse effect on the Company's operations. These risks include the following:

- changes in sea levels could affect ocean transportation and shipping facilities that are used to transport supplies, equipment and workforce and products from the Company's operations to world markets;
- extreme weather events (such as prolonged drought or floods) have the potential to disrupt operations at the Company's operations and may require the Company to make additional expenditures to mitigate the impact of such events; and
- the Company's facilities depend on regular supplies of consumables (diesel, tires, reagents, etc.) to operate efficiently. In the event that the effects of climate change or extreme weather events cause prolonged disruption to the delivery of essential commodities, production levels at the Company's operations may be reduced.

There can be no assurance that efforts to mitigate the risks of climate change will be effective and that the physical risks of climate change will not have an adverse effect on the Company's business, financial condition, results of operations, cash flows or prospects.

Social and Environmental Activism can Negatively Impact Exploration, Development and Mining Activities

There is an increasing level of public concern relating to the effects of resource extraction on the natural landscape, on communities and on the environment. Certain non-governmental organizations, public interest groups and reporting organizations ("NGOs") who oppose resource development can be vocal critics of the resource extraction industries. In addition, there have been many instances in which local community groups have opposed resource extraction activities, which have resulted in disruption and delays to the relevant operation. While the Company seeks to operate in a socially responsible manner and believes it has good relationships with local communities in the regions in which it operates, NGOs or local community organizations could direct adverse publicity against and/or disrupt the operations of the Company in respect of one or more of its properties, regardless of its successful compliance with social and environmental best practices, due to political factors, activities of unrelated third parties on lands in which the Company has an interest or the Company's operations specifically. Any such actions and the resulting media coverage could have an adverse effect on the reputation and financial condition of the Company or its relationships with the communities in which it operates, which could have a material adverse effect on the Company's business, financial condition, results of operations, cash flows or prospects.

The Company may be Responsible for Corruption and Anti-bribery law Violations

The Company's operations are governed by, and involve interactions with, many levels of government in various countries. The Company is required to comply with anti-corruption and anti-bribery laws, including the Canadian and Czech Republic *Criminal Codes*, the Canadian *Corruption of Foreign Public Officials Act* and similar laws in the Czech Republic and other countries. In recent years, there has been a general increase in both the frequency of enforcement and the severity of penalties under such laws, resulting in greater scrutiny and punishment to companies convicted of violating anti-corruption and anti-bribery laws. Furthermore, a company may be found liable for violations not only by its employees, but also by its contractors and third-party agents. Although the Company has adopted steps to mitigate such risks, such measures may not always be effective in ensuring that the Company, its employees, contractors and third-party agents will comply strictly with such laws. If the Company finds itself subject to an enforcement action or is found to be in violation of such laws, this may result in significant penalties, fines and/or sanctions imposed on the Company resulting in a material adverse effect on the Company's reputation, compliance with material contracts, and results of its operations.

The Company is Exposed to the Possibility that Applicable Taxation Authorities could take Actions that Result in Increased Tax

The Company pays or will pay upon the commencement of future operations in the future, a variety of taxes, fees and other governmental charges in connection with the operation of its business, including income taxes, mining royalties, ad valorem property taxes, sales and use taxes, social security contributions and various assessments. These taxes, fees and other charges are assessed by a variety of taxing authorities pursuant to applicable laws, regulations and rules. From time to time, the Company may also enter into specific agreements with such taxing authorities that provide for the reduction, abatement or deferral of such taxes, fees or charges in exchange for certain payments or undertakings on the Company's part. If the Company enters into any such arrangements, the Company can give no assurance that any such reduction, abatement or deferral arrangements will be honored or that the applicable taxing authorities will not take actions that materially increase the amount of such taxes, fees or other governmental charges that the Company is required to pay. Additionally, the Company may incur additional and unanticipated costs and expenses in connection with the Company's efforts to resist any proposed increases in such taxes, fees or other charges or in connection with the Company's efforts to enforce any reduction, abatement or deferral arrangements that the Company has previously put in place.

In addition, the Czech Republic government may implement changes to the tax regime that may affect the Company, or transactions the Company enters into may have unknown tax liabilities. These changes could include changes in prevailing tax rates and the imposition of new or temporary taxes, the proceeds of which are earmarked for designated government purposes. Changes and unknown tax consequences from transactions may result in increases in the Company's tax payments, which could have an adverse effect on the Company's operations or profitability. The Company cannot provide assurance that it will be able to be profitable following any increases in taxes applicable to the Company and the Company's operations.

Future Acquisitions

As part of the Company's business strategy, the Company may seek to grow by acquiring companies and/or assets or establishing joint ventures that the Company believes will complement the Company's current or future business. The Company may not effectively select acquisition candidates or negotiate or finance acquisitions or integrate the acquired businesses and their personnel or acquire assets for the Company's business. The Company cannot guarantee that the Company can complete any acquisition the Company pursues on favourable terms, or that any acquisitions completed will ultimately benefit the Company's business. The Company is pursuing a growth strategy in North America that is uncertain, subject to a number of risks, and may never materialize.

Reliability of Historical Information

The Company has relied on, and the disclosure from the Technical Report, is based, in part, upon historical data compiled by previous parties involved with the Chvaletice Manganese Project. To the extent that any of such historical data is inaccurate or incomplete, the Company's plans may be adversely affected.

Risks Relating to the Shares

Liquidity and Future Financing Risk

The Company is in the early stages of its business and has no source of operating revenue. The Company will likely operate at a loss until the Company puts the Chvaletice Manganese Project into production. The Company's ability to secure any required financing to sustain operations will depend in part upon prevailing capital market conditions and business success. There can be no assurance that the Company will be successful in its efforts to secure any additional financing or additional financing on satisfactory terms, if at all. If additional financing is raised by issuance of additional Shares from treasury, control may change, and shareholders may suffer dilution. If adequate funds are not available, or are not available on acceptable terms, the Company may be required to scale back its current business plan or cease operating.

Currency Fluctuations can result in Unanticipated Losses

The Company maintains its accounting records and reports its financial position and results in Canadian dollars, but a portion of the Company's operating and capital expenses are or will be incurred in Czech Republic Koruna and U.S. dollars, and the high-purity manganese products that the Company expects to produce from the Chvaletice Manganese Project will be sold based principally on a US dollar price. Exchange rate fluctuations in these currencies are beyond the Company's control and such fluctuations could have an adverse effect on the Company's business, financial condition and results of operations.

Share Price Fluctuations

In recent years, the stock market has experienced extreme price and volume fluctuations. This volatility has had a significant effect on the market price of securities issued by many companies for reasons unrelated to the operating performance of these companies. The market price of the Shares could similarly be subject to wide fluctuations in response to a number of factors, most of which the Company cannot control, including, but not limited to:

- (a) fluctuations in the market price of mineral resources;
- (b) the public's reaction to the Company's press releases, announcements and filings with Canadian securities regulatory authorities and those of its competitors;
- (c) fluctuations in broader stock market prices and volumes;
- (d) changes in market valuations of similar companies;
- (e) investor perception of the Company's industry or prospects;
- (f) additions or departures of key personnel;
- (g) commencement of or involvement in litigation;
- (h) changes in environmental and other governmental regulations;
- (i) announcements by the Company or its competitors of strategic alliances, significant contracts, new technologies, acquisitions, commercial relationships, joint ventures or capital commitments;
- (j) variations in the Company's quarterly results of operations or cash flows or those of other comparable companies;
- (k) revenues and operating results failing to meet the expectations of securities analysts or investors in a particular quarter;
- (l) the extent to which COVID-19 impacts the market for the Company's securities which depend on future developments that are highly uncertain and cannot be predicted at this time, and include the duration, severity and scope of the COVID-19 pandemic and the actions taken to contain or treat the COVID-19 pandemic;
- (m) the expiration of lock-up or other transfer restrictions on outstanding Shares;
- (n) news reports relating to trends, concerns, technological or competitive developments, regulatory changes and other related industry and market issues affecting the mining sector;
- (o) future issuances and sales of Shares, or of debt securities of the Company;
- (p) demand for and trading volume of Shares;
- (q) changes in securities analysts' recommendations and their estimates of the Company's financial performance; and
- (r) changes in general conditions in the domestic and worldwide economies or financial markets.

The realization of any of these risks and other factors beyond the Company's control could cause the market price of the Shares to decline significantly.

Additionally, as the Shares are traded on the TSXV and the CDIs are traded on the ASX, there is a possibility that there will be substantial price and volume disparities between the two markets.

Dividends to Shareholders

The Company has not, since the date of its incorporation, declared or paid any dividends or other distributions on its Shares. The Company does not anticipate paying cash dividends on the Shares in the foreseeable future. The Company currently intends to retain all future earnings to fund the development and growth of its business. Any payment of future dividends will be at the discretion of the directors and will depend on, among other things, the Company's earnings, financial condition, capital requirements, level of indebtedness, statutory and contractual restrictions applying to the payment of dividends, and other considerations that the directors deem relevant. Investors must rely on sales of their Shares after price appreciation, which may never occur, as the only way to realize a return on their investment.

Securities or Industry Analysts

The trading market for Shares could be influenced by research and reports that industry and/or securities analysts may publish about the Company, its business, the market or competitors. The Company does not have any control over these analysts and cannot assure that analysts will cover it or provide favourable coverage. If any of the analysts who may cover the Company's business change their recommendation regarding the Company's stock adversely, or provide more favourable relative recommendations about its competitors, the stock price would likely decline. If any analyst who may cover the Company's business were to cease coverage or fail to regularly publish reports on the Company, it could lose visibility in the financial markets, which in turn could cause the stock price or trading volume to decline.

Dilution from Future Equity Financings

In order to execute the Company's growth strategy, the Company may from time to time raise funds through the issuance of Shares or the issuance of debt instruments or other securities convertible into Shares. The Company cannot predict the size or price of future issuances of Shares or the size or terms of future issuances of debt instruments or other securities convertible into Shares, or the effect, if any, that future issuances and sales of the Company's securities will have on the market price of the Shares. Sales or issuances of substantial numbers of Shares, or the perception that such sales or issuances could occur, may adversely affect prevailing market prices of the Shares. With any additional sale or issuance of Shares, or securities convertible into Shares, investors will suffer dilution to their voting power and the Company may experience dilution in its earnings per share.

Public Companies are Subject to Securities Class Action Litigation Risk

In the past, securities class action litigation has often been brought against a company following a decline in the market price of its securities. If the Company faces such litigation, it could result in substantial costs and a diversion of management's attention and resources, which could materially harm its business.

It may be Difficult to Enforce Judgements and effect Service of Process on Directors and Officers

Some of the directors and officers of the Company reside outside of Canada, and some or all of the assets of those persons may be located outside of Canada. Therefore, it may not be possible for investors to collect or to enforce judgments obtained in Canadian courts predicated upon the civil liability provisions of applicable Canadian Securities Laws against such persons. Moreover, it may not be possible for investors to effect service of process within Canada upon such persons.

Global Financial Conditions can Reduce the Price of the Shares

Following the onset of the credit crisis in 2008, global financial conditions were characterized by extreme volatility and several major financial institutions either went into bankruptcy or were rescued by governmental authorities. While global financial conditions subsequently stabilized, there remains considerable risk in the system given the extraordinary measures adopted by government authorities to

achieve that stability. Global financial conditions could suddenly and rapidly destabilize in response to future economic shocks, as government authorities may have limited resources to respond to future crises. Future economic shocks may be precipitated by a number of causes, including a rise in the price of oil, geopolitical instability, globally pandemics and natural disasters. Any sudden or rapid destabilization of global economic conditions could impact the Company's ability to obtain equity or debt financing in the future on terms favourable to the Company. Additionally, any such occurrence could cause decreases in asset values that are deemed to be other than temporary, which may result in impairment losses. Further, in such an event, the Company's operations and financial condition could be adversely impacted.

Furthermore, general market, political and economic conditions, including, for example, inflation, interest and currency exchange rates, structural changes in the global mining industry, global supply and demand for commodities, political developments, legislative or regulatory changes, social or labour unrest and stock market trends will affect the Company's operating environment and its operating costs, profit margins and share price. Any negative events in the global economy could have a material adverse effect on the Company's business, financial condition, results of operations, cash flows or prospects.

Conflict of Interest

Certain of the Company's directors and officers are, and may continue to be, involved in the mineral exploration industry through their direct and indirect participation in corporations, partnerships or joint ventures which are potential competitors of the Company. Situations may arise in connection with potential acquisitions or opportunities where the other interests of these directors and officers may conflict with the Company's interests. Directors and officers of the Company with conflicts of interest will be subject to and must follow the procedures set out in applicable corporate and securities legislation, regulations, rules and policies. Notwithstanding this, there may be corporate opportunities which the Company is not able to procure due to a conflict of interest of one or more of the Company's directors or officers.

The Company's Critical Operating Systems may be Compromised.

Cyber threats have evolved in severity, frequency and sophistication in recent years, and target entities are no longer primarily from the financial or retail sectors. Cybersecurity risk is increasingly difficult to identify and quantify and cannot be fully mitigated because of the rapid evolving nature of the threats, targets and consequences. Persons engaging in cybercrime may target corruption of systems or data, or theft of sensitive data. While the Company invests in robust security systems to detect and block inappropriate or illegal access to the Company's key systems, including supervisory control and data acquisition operating systems at the Company's operations, and regularly reviews policies, procedures and protocols to ensure data and system integrity, there can be no assurance that critical systems will not be inadvertently or intentionally breached and compromised. This may result in business interruption losses, equipment damage, or loss of critical or sensitive information.

DIVIDENDS AND DISTRIBUTIONS

The Company has never declared or paid a dividend. The Board intends to retain future earnings for reinvestment in the Company's business, and therefore has no current intention to declare or pay dividends on the Shares in the foreseeable future. The Company's dividend policy will be reviewed from time to time in the context of its earnings, financial condition and other relevant factors. There can be no assurance that the Company will generate sufficient earnings or cash flow to allow it to pay dividends.

DESCRIPTION OF CAPITAL STOCK

The Company's authorized share capital consists of an unlimited number of Shares without par value. The following is a summary of the Company's capital. It does not purport to be complete and is subject to, and is qualified in its entirety by reference to, the applicable provisions of British Columbia corporate law, the Company's notice of articles and articles. As at the date of this AIF, 402,669,227 Shares are issued and outstanding, including 244,072,935 Shares in the form of CDIs. In addition, as of the date of this AIF, there were 38,497,584 Shares issuable on the exercise of incentive stock options and 6,000,000 Shares issuable on the exercise of common share purchase warrants.

Shares

All of the Shares rank equally as to voting rights, participation in a distribution of the assets of the Company on a liquidation, dissolution or winding-up of the Company and entitlement to any dividends declared by the Company. The holders of the Shares are entitled to receive notice of, and to attend and vote at, all meetings of shareholders, with each Share carrying the right to one vote. In the event of the liquidation, dissolution or winding-up of the Company, or any other distribution of the assets of the Company among its shareholders for the purpose of winding-up its affairs, the holders of the Shares will be entitled to receive, on a pro rata basis, all of the assets remaining after the payment by the Company of all of its liabilities. The holders of Shares are entitled to receive dividends as and when declared by the Board in respect of the Shares on a pro rata basis. The Shares do not carry any pre-emptive, subscription, redemption or conversion rights.

MARKET FOR SECURITIES

Markets

The Shares were listed on the TSXV on October 2, 2018 under the symbol "EMN". The closing price of the Shares on the TSXV on December 13, 2023 was \$0.105. The Company's Shares, in the form of CDIs were admitted to the Official List of the ASX effective September 28, 2018 and commenced trading on the ASX October 2, 2018 under the symbol "EMN". The closing price of the Shares on the ASX on December 13, 2023 was A\$0.10.

Trading Price and Volume of the Shares

The following sets forth the high and low market prices and the volume of the Shares and CDIs traded on the TSXV and ASX, respectively, during the most recently completed financial year ended September 30, 2023 and to the end of the month prior to the date of this AIF, stated in Canadian dollars and Australian dollars, respectively:

Month / Year	TSXV Trading			ASX Trading		
	High CAD\$	Low CAD\$	Volume	High A\$	Low A\$	Volume
October 2022	\$0.27	\$0.23	789,400	A\$0.23	A\$0.25	2,271,300
November 2022	\$0.32	\$0.24	400,500	A\$0.39	A\$0.27	3,778,300
December 2022	\$0.39	\$0.28	850,200	A\$0.36	A\$0.315	2,513,100
January 2023	\$0.375	\$0.29	361,200	A\$0.39	A\$0.315	3,525,800
February 2023	\$0.315	\$0.25	1,609,800	A\$0.325	A\$0.255	20,632,000
March 2023	\$0.28	\$0.20	1,840,400	A\$0.285	A\$0.203	12,591,900
April 2023	\$0.22	\$0.20	590,800	A\$0.24	A\$0.21	5,134,400
May 2023	\$0.22	\$0.17	1,289,600	A\$0.255	A\$0.19	4,079,900
June 2023	\$0.195	\$0.15	1,805,900	A\$0.21	A\$0.16	6,671,700
July 2023	\$0.235	\$0.16	988,000	A\$0.245	A\$0.17	4,353,900
August 2023	\$0.27	\$0.165	1,984,000	A\$0.225	A\$0.17	4,811,700
September 2023	\$0.21	\$0.115	2,226,000	A\$0.195	A\$0.14	3,682,300
October 2023	\$0.165	\$0.11	1,781,600	A\$0.15	A\$0.115	5,271,200
November 2023	\$0.19	\$0.09	3,624,100	A\$0.22	A\$0.095	32,566,600

Prior Sales

The following table sets forth certain information regarding the sale of Shares during the most recently completed financial year ended September 30, 2023 and to the end of the month prior to the date of this AIF.

Date of Issue	Number and Type of Securities	Issue Price Per Securities	Aggregate Issue Price	Nature of Consideration
December 9, 2022	991,666 Shares	\$0.154	\$152,666	Exercise of Options
December 16, 2022	16,600 Shares	\$0.25	\$4,150	Exercise of Options
December 21, 2022	308,333 Shares	\$0.185	\$57,083	Exercise of Options
January 5, 2023	237,077 Shares	\$0.34	\$80,606	Private Placement ⁽¹⁾
February 20, 2023	250,000 Incentive Stock Options	\$0.4775	-	Remuneration
May 15, 2023	4,868,251 Incentive Stock Options	\$0.4775	-	Remuneration

Notes:

(1) Issued in connection with a final investment tranche of €62,500 made by EIT InnoEnergy during 2022.

DIRECTORS AND EXECUTIVE OFFICERS

The following table sets out the names and country and state or province of residence of the directors and executive officers of the Company, their present position(s) and offices with the Company, and their principal occupations during the last five year, as at the date hereof.

Name and Province and Country of Residence	Position(s) with the Company	Principal Occupation During Past Five Years	Director since
John Webster ⁽¹⁾⁽²⁾ British Columbia, Canada	Non-Executive Chairman, Director	Retired in June 2014 after 30 years with PricewaterhouseCoopers LLP; a director of Eldorado Gold Corporation and chair of its audit committee.	September 14, 2015

Name and Province and Country of Residence	Position(s) with the Company	Principal Occupation During Past Five Years	Director since
<p>Matthew P. James ⁽⁴⁾ Surrey, United Kingdom</p>	<p>President & CEO, Director</p>	<p>President and CEO of the Company since December 2021; from February 2020 to present, Managing Director of Materia Consultancy Limited, a private consulting company; and from November 2017 to February 2020, Vice President Strategy and Business Development at Harsco Corporation, a global industrial company providing industrial services and engineering products that serve large industries, including steel, railways and energy.</p>	<p>December 20, 2021</p>
<p>David B. Dreisinger ⁽¹⁾⁽⁴⁾ British Columbia, Canada</p>	<p>Director</p>	<p>Professor at the University of British Columbia since 1984; President of Dreisinger Consulting, providing consulting services on major hydrometallurgical projects and plants; since January 2021, Chief Technical Officer (CTO) of Atlas Materials, a private equity funded startup, and from November 2023, its President and CTO; a director of Polymet Mining Corp. since October 2003, Search Minerals Inc. since July 2009, LeadFX Inc. since June 2017 and Cascadero Copper since November 2020; Vice President Metallurgy of Search Minerals Inc. from July 2009; and from May 2009 to January 2018, held position of Vice President Metallurgy with TriMetals Mining Inc. and from July 2004 to December 2020, held position of Vice President Metallurgy with Camrova Resources.</p>	<p>September 14, 2015</p>
<p>Gregory P. Martyr ⁽¹⁾⁽²⁾⁽³⁾ New South Wales, Australia</p>	<p>Director</p>	<p>CEO and Director of Battery Future Acquisition Corp. from December 2021 to present; Non-Executive Chair of Capital Metals plc from February 2018 to July 2023, and Executive Chair from July 2023 to present; Director of CB Innovations Pty Ltd January 2020 to present; and Non-executive Director of MIS Carbonart Pty Ltd from March 2018 to September 2020.</p>	<p>March 20, 2018</p>
<p>Thomas M. Stepien ⁽³⁾⁽⁴⁾ California, USA</p>	<p>Director</p>	<p>From August 2023 to present, CEO of South 8, a lithium-ion battery electrolyte company; from December 2020 to November 2023, Operating Partner at KCK, a venture and private equity investor across a broad range of industrial technologies; from December 2020 to July 2023, CEO of QM Power, a provider of electric vehicle motors and energy efficient motor controllers; and from 2009 to present, CEO and Director of Primus Power Solutions, a battery energy storage company.</p>	<p>September 22, 2020</p>

Name and Province and Country of Residence	Position(s) with the Company	Principal Occupation During Past Five Years	Director since
Hanna E. Schweitz ⁽²⁾⁽³⁾ Skellefteå, Sweden	Director	From September 2021, Director of Battery Materials and Asset Development at WMC Energy, an independent physical commodity merchant and industrial asset development company based in The Netherlands; and from June 2018 to August 2021, Director of Metals and Raw Materials at Northvolt AB, a Swedish battery developer and manufacturer, specializing in lithium-ion technology for electric vehicles.	April 25, 2022
Martina Blahova British Columbia, Canada	Chief Financial Officer	CFO from January 2020; Corporate Controller of the Company from September 2018 to December 2019; Manager of Financial Reporting at SSR Mining Inc. from November 2013 to August 2018	N/A
Fausto Taddei British Columbia, Canada	Vice President, Corporate Development and Corporate Secretary	Vice President, Corporate Development and Corporate Secretary of the Company since November 2018; from June 2013 to November 2018, a private financial consultant.	N/A
Andrea Zaradic British Columbia, Canada	Vice President, Operations	Vice President Operations from September 2020; From February 2019 to September 2020, was Senior Project Director for the Company; Independent Director Sedna Wind Technologies, a private company acquiring or investing in companies providing products or services to the offshore wind industry, September 2021 to present; Independent Director Reservoir Capital (TSX:V REO) Sept 2018 to 2022; Independent Director Kootenay Silver (TSX:V KTN) April 2016 to 2021; Technical Advisor North Leaf Capital 2015 to Present.	N/A
Jan Votava Czech Republic	Managing Director of Mangan	Managing Director of Mangan, from October 1, 2017; From 2006 to September 2017, held managerial roles including Head of Transformation Team for Europe, Technical Director for Central Europe, as well as Executive Chairman and Managing Director for the Czech Republic for LafargeHolcim, a global building materials company.	N/A

Notes:

1. Member of Audit Committee, of which John Webster is the Chair.
2. Member of Governance, Compensation and Nominating Committee, of which Gregory Martyr is the Chair.
3. Member of Sustainability Committee, of which Thomas Stepien is the Chair.
4. Member of Technical Committee, of which David Dreisinger is the Chair.

The term of office of the directors expires annually at the time of the Company's annual shareholder meeting. The term of office of the Company's executive officers expires at the discretion of the Board.

As at the date of this AIF, the Company's directors and executive officers as a group beneficially own, directly or indirectly, or exercise control or direction over an aggregate of 5,218,298 Shares, representing 1.3% of the issued and outstanding Shares.

Cease Trade Orders, Bankruptcies, Penalties or Sanctions

To the knowledge of management, except as disclosed herein, no director or executive officer of the Company is, as of the date of this AIF, or was, within the 10 years before the date hereof, a director, chief executive officer or chief financial officer of any company that was the subject of a cease trade order, an order similar to a cease trade order or an order that denied the company access to any exemption under securities legislation that was in effect for a period of more than 30 consecutive days, that was issued: (i) while such person was acting in that capacity; or (ii) after such person was acting in such capacity and which resulted from an event that occurred while that person was acting in such capacity.

To the knowledge of management, except as disclosed herein, no director or executive officer of the Company, or shareholder holding a sufficient number of securities to affect materially the control of the Company is, as of the date of this AIF, or has been, within 10 years before the date hereof, a director or executive officer of any company that, while such person was acting in that capacity, or within a year of that person ceasing to act in that capacity, became bankrupt, made a proposal under any legislation relating to bankruptcy or insolvency or was subject to or instituted any proceedings, arrangement or compromise with creditors or had a receiver, receiver manager or trustee appointed to hold its assets.

To the knowledge of management, no director or executive officer of the Company, or shareholder holding a sufficient number of securities to affect materially the control of the Company has, within the 10 years before the date of this AIF, become bankrupt, made a proposal under any legislation relating to bankruptcy or insolvency, or become subject to or instituted any proceedings, arrangement or compromise with creditors, or had a receiver, receiver manager or trustee appointed to hold the assets of the director, executive officer or shareholder.

To the knowledge of management, no director or executive officer of the Company, or shareholder holding a sufficient number of securities to affect materially the control of the Company has been subject to any penalties or sanctions imposed by a court relating to securities legislation or by a securities regulatory authority or has entered into a settlement agreement with a securities regulatory authority, or has been subject to any other penalties or sanctions imposed by a court or regulatory body that would likely be considered important to a reasonable investor in making an investment decision.

Conflicts of Interest

To the best of the Company's knowledge, there are no existing or potential conflicts of interest among the Company, its directors, officers, or other members of management of the Company except that certain of the directors, officers and other members of management serve as directors, officers and members of management of other public companies and therefore it is possible that a conflict may arise between their duties as a director, officer or member of management of such other companies and their duties as a director, officer or member of management of the Company.

The directors and officers of the Company are aware of the existence of laws governing accountability of directors and officers for corporate opportunity and requiring disclosure by directors and officers of conflicts of interest and the Company will rely upon such laws in respect of any directors' or officers' conflicts of interest or in respect of any breaches of duty to any of its directors and officers. All such conflicts must be disclosed by such directors or officers in accordance with British Columbia corporate law.

The Company has adopted the Code which applies to all directors, officers, employees and consultants of the Company and its subsidiaries.

LEGAL PROCEEDINGS AND REGULATORY ACTIONS

During the last fiscal financial year, covering the period October 1, 2022 to September 30, 2023, there have been no legal proceedings to which the Company is or was a party or of which any of its property is or was the subject of that involves claims for damages, and the Company is unaware of any such proceedings being contemplated.

During the last fiscal financial year, there have not been any penalties or sanctions imposed against the Company by a court relating to provincial and territorial securities legislation or by a securities regulatory authority, nor have there been any other penalties or sanctions imposed by a court or regulatory body against the Company, and the Company has not entered into any settlement agreements before a court relating to provincial and territorial securities legislation or with a securities regulatory authority.

AUDIT COMMITTEE INFORMATION

Audit Committee Charter

The charter of the Audit Committee of the Company is attached as Schedule "B" to this AIF.

Composition of the Audit Committee and Independence

The Audit Committee is comprised of three directors, being John Webster, Gregory P. Martyr and David Dreisinger, each of whom is "independent" within the meaning of NI 52-110. John Webster is the current chair of the Audit Committee.

Relevant Education and Experience

Each of John Webster, Gregory P. Martyr, and David Dreisinger, are "financially literate" within the meaning of NI 52-110. Each of the members of the Audit Committee has had several years of experience as a senior executive and a member of the board of directors of significant business enterprises in which he has assumed substantial financial and operational responsibility. In the course of these duties, the members have gained a reasonable understanding of the accounting principles used by the Company; an ability to assess the general application of such principles in connection with the accounting for estimates, accruals and reserves; experience analyzing and evaluating financial statements that present a breadth and level of complexity of issues that can reasonably be expected to be raised by the Company's financial statements, or experience actively supervising one or more individuals engaged in such activities; and an understanding of internal controls and procedures for financial reporting.

Audit Committee Oversight

At no time since incorporation was a recommendation of the Audit Committee to nominate or compensate an external auditor not adopted by the Board.

Pre-Approval Policies and Procedures

The Audit Committee charter requires that the Audit Committee pre-approve any services and fees to be provided by the auditor of the Company for the performance of any non-audit services that the Company deems advisable in accordance with applicable legal and regulatory requirements. The pre-approval requirement is waived with respect to the provision of such non-audit services if: the aggregate amount of all such non-audit services provided to the Company constitutes not more than twenty percent of the total amount of fees paid by the Company to its external auditors during the fiscal year in which the non-audit services are provided; such services were not recognized by the Company at the time of the engagement

to be non-audit services; and such services are promptly brought to the attention of the Audit Committee by the Company and approved prior to the completion of the audit by the Audit Committee or by one or more members of the Committee who are members of the Board to whom authority to grant such approvals has been delegated by the Committee. The Audit Committee is permitted to delegate pre-approval authority to one or more of its members; however, the decision of any member of the Audit Committee to whom such authority has been delegated must be presented to the full Audit Committee at its next scheduled meeting.

External Auditor Service Fees

The following table provides information about the fees billed to the Company, for professional services rendered by PricewaterhouseCoopers LLP, Chartered Professional Accountants, during the financial years ended September 30, 2023 and 2022:

	2023	2022
	(\$)	(\$)
Audit Fees ⁽¹⁾	79,460	74,365
Audit Related Fees ⁽²⁾	49,135	41,195
Tax Fees ⁽³⁾	-	38,498
All Other Fees ⁽⁴⁾	10,900	11,128
Total: ⁽⁵⁾	139,495	165,187

Notes:

- (1) Audit fees were for professional services rendered by the Company's auditors for the audit of the Company's annual consolidated financial statements.
- (2) Audit related fees were for services related to limited procedures performed by the Company's auditors related to interim reports as well as services provided in connection with statutory and regulatory filings.
- (3) Tax fees are for tax compliance, tax advice and tax planning.
- (4) Other fees represent assurance services in connection with the Company's ISO 27001 Certification.
- (5) These fees only represent professional services rendered and do not include any out-of-pocket disbursements or fees associated with filings made on the Company's behalf. These additional costs are not material as compared to the total professional services fees for each year.

INTERESTS OF MANAGEMENT AND OTHERS IN MATERIAL TRANSACTIONS

The Company is not aware of any material interest, direct or indirect, of any director or officer of the Company, or any person or company that is a direct or indirect beneficial owner of, or who exercises control or direction over, more than ten percent of the Shares, or any affiliate of such persons or companies, in any transaction within the three most recently completed financial years or during the current financial year that has materially affected or will materially affect the Company.

TRANSFER AGENTS AND REGISTRARS

The transfer agent and registrar for the Shares is Computershare Investor Services Inc. at its offices in Vancouver, British Columbia, Canada.

MATERIAL CONTRACTS

As of the date of this AIF, except for contracts entered into by the Company in the ordinary course of business or otherwise disclosed herein, the Company has two contracts which it regards as material, being the Convertible Loan and Royalty Agreement between Mangan, OMRF (Bk) LLC, and the Company, and the Royalty Agreement between Mangan, OMRF (Bk) LLC, and the Company, both of which are dated November 27, 2023 and filed on SEDAR+ at www.sedarplus.ca.

INTERESTS OF EXPERTS

Independent Auditors

The Company's auditors are PricewaterhouseCoopers LLP, Chartered Professional Accountants, who have prepared an independent auditor's report dated December 13, 2023 in respect of the Company's consolidated financial statements as at September 30, 2023 and September 30, 2022 and for years then ended. PricewaterhouseCoopers LLP has advised that they are independent with respect to the Company within the meaning of the Chartered Professional Accountants of British Columbia Code of Professional Conduct.

The scientific and technical information in this AIF regarding the Chvaletice Manganese Project referred to in the "*Description of the Business*" section is based on the Technical Report.

Interests of Experts

Mr. James Barr, P. Geo, Senior Geologist, Mr. Jianhui (John) Huang, Ph.D., P. Eng., Senior Metallurgical Engineer, Mr. Hassan Ghaffari, P. Eng., M.A.Sc., Senior Process Engineer, Mr. Chris Johns, P. Eng., Senior Geotechnical Engineer, and Mrs. Maureen Marks, P. Eng., Senior Mining Engineer, the authors of the Technical Report, are independent from the Company within the meaning of NI 43-101. Ms. Andrea Zaradic is the Company's Vice President, Operations and is the Company's designated Qualified Person within the meaning of NI 43-101. Ms. Zaradic has reviewed and approved the technical information contained in this AIF. Each of Messrs. Huang, Barr, Ghaffari and Johns and Mrs. Marks beneficially own, directly or indirectly, none of the outstanding Shares. Ms. Andrea Zaradic beneficially owns, directly or indirectly, less than 1% of the outstanding Shares.

The scientific and technical information with respect to the Chvaletice Manganese Project contained in this AIF is derived from the independent NI 43-101 technical report with an effective date of July 27, 2022 (released September 9, 2022) entitled "*Technical Report and Feasibility Study for the Chvaletice Manganese Project Chvaletice, Czech Republic*" prepared by Mr. James Barr, P. Geo, Senior Geologist, Mr. Jianhui (John) Huang, Ph.D., P. Eng., Senior Metallurgical Engineer, Mr. Hassan Ghaffari, P. Eng., M.A.Sc., Senior Process Engineer, Mr. Chris Johns, P. Eng., Senior Geotechnical Engineer, and Mrs. Maureen Marks, P. Eng., Senior Mining Engineer (the "**Technical Report**").

ADDITIONAL INFORMATION

Additional information relating to the Company may be found on SEDAR+ at www.sedarplus.ca.

Additional information, including directors' and officers' remuneration and indebtedness, principal holders of the Corporation's securities and securities authorized for issuance under equity compensation plans will be contained in the Company's management proxy circular for its upcoming annual general meeting.

Additional financial information is provided in the Company's audited consolidated financial statements and management discussion & analysis for the year ended September 30, 2023.

SCHEDULE "A"

INTERPRETATION

Defined Terms

Certain terms are limited to one section of the AIF and are defined directly in the body of the AIF. Other terms are used throughout, and are defined as follows:

"**AIF**" means this annual information form of the Company;

"**ASX**" means the Australian Securities Exchange;

"**BCBCA**" means the *Business Corporations Act* (British Columbia), as amended from time to time, including the regulations promulgated thereunder;

"**Board**" means the board of directors of EMN;

"**BGRIMM**" means BGRIMM Technology Group;

"**CAM**" means cathode active material;

"**Capex**" means initial capital;

"**CDI**" means a CHESSE Depository Interest (with each CDI representing one fully paid Share);

"**Chvaletice**" means the Municipality of Chvaletice;

"**Chvaletice Manganese Project**" means the Chvaletice Manganese Project in the Czech Republic in which the Company hold 100% of the rights to;

"**Code**" means the Company's Code of Ethics and Business Conduct;

"**CPM Group**" means CPM Group LLC;

"**CRIMM**" means Changsha Research Institute of Mining and Metallurgy Co., Ltd.;

"**CRMA**" means the European Critical Raw Materials Act;

"**Demonstration Plant**" means the proposed HPEMM and HPMSM demonstration plant for the Chvaletice Manganese Project;

"**EBRD**" means the European Bank for Reconstruction and Development;

"**EIA**" means Environmental Impact Assessment of the Chvaletice Manganese Project;

"**EMN**" or the "**Company**" means Euro Manganese Inc.;

"**EPCM**" means Engineering, Procurement, Construction Management;

"**EU**" means the European Union;

"**Feasibility Study**" means the feasibility study on the Chvaletice Manganese Project with an effective date of July 27, 2022;

"**FEED**" means Front End Engineering Design;

"**FID**" means Final Investment Decision;

"**Final ESIA**" means the Final Environmental and Social Impact Assessment;

"**GWP**" means global warming potential;

"**JORC Code**" means the Joint Ore Reserves Committee Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves 2012 Edition;

"**HPEMM**" means high-purity electrolytic manganese metal, a form of highly-refined manganese metal, which can be used to produce certain specialty steel and aluminum alloys, as well as HPMSM;

"**HPMSM**" means high-purity manganese sulphate monohydrate, a form of highly-refined manganese salt, which is a major ingredient in certain common types of lithium-ion batteries;

"**LCA**" means life cycle assessment study;

"**Mangan**" means Mangan Chvaletice s.r.o.;

"**Ministry**" means Czech Ministry of the Environment;

"**MoU**" means memorandum of understanding;

"**MSP**" means the Minerals Security Partnership;

"**NI 43-101**" means National Instrument 43-101 – *Standards of Disclosure for Mineral Projects*;

"**NI 52-110**" means National Instrument 52-110 – *Audit Committees*;

"**NMC**" means nickel, manganese and cobalt chemistry-based cathode batteries;

"**Option**" means an option to acquire a Share granted pursuant to the Stock Option Plan;

"**pCAM**" means precursor product;

"**PEA**" means the Preliminary Economic Assessment for the Chvaletice Manganese Project with an effective date of January 29, 2019;

"**Qualified Person**" means an individual who is a "Qualified Person" or "QP" within the meaning of NI 43-101;

"**SEDAR+**" means the System for Electronic Document Analysis and Retrieval operated by the securities regulatory authorities in each of the provinces and territories of Canada;

"**Shares**" means the common shares in the capital of EMN;

"**SPIPB**" means Société du parc industriel et portuaire de Bécancour;

"**Stock Option Plan**" means the stock option plan of the Company;

"**Supplier Code**" means Supplier Code of Conduct;

"**Sustaining Capex**" means sustaining capital;

"**Technical Report**" has the meaning given to it under the heading "*Definitions and Other Information – Scientific and Technical Information*";

"**Tetra Tech**" means Tetra Tech Canada Inc.;

"**Trnavka**" means the Village of Trnavka;

"**TSXV**" means the TSX Venture Exchange;

"**U.S.**" or "**United States**" mean the United States of America, its territories or possessions, any state of the United States and the District of Columbia;

"**W8banaki**" means Grand Conseil de la Nation WabanAki; and,

"**Wood**" means Wood Australia.

SCHEDULE "B"

AUDIT COMMITTEE CHARTER

1. MANDATE

The primary function of the audit committee (the "Committee") is to assist the Board of Directors in fulfilling its financial oversight responsibilities by reviewing the financial reports and other financial information provided by Euro Manganese Inc (the "Company") to regulatory authorities and shareholders, the Company's systems of internal controls regarding finance and accounting and the Company's auditing, accounting and financial reporting processes. Consistent with this function, the Committee will encourage continuous improvement of, and should foster adherence to, the Company's policies, procedures and practices at all levels. The Committee's primary duties and responsibilities are to:

- a) Serve as an independent and objective party to monitor the Company's financial reporting and internal control system and review the Company's financial statements.
- b) Review and appraise the performance of the Company's external auditors.
- c) Provide an open avenue of communication among the Company's auditors, financial and senior management and the Board of Directors.
- d) Provide guidance to the Company's management team and, in particular, the Chief Financial Officer, on appropriate disclosure, accounting and risk management practices and procedures.

2. COMPOSITION

The Committee shall be comprised of three Directors as determined by the Board of Directors, all of whom shall be "independent" directors as defined in section 1.4 of National Instrument 52-110 and free from any relationship that, in the opinion of the Board of Directors, would interfere with the exercise of his or her independent judgment as a member of the Committee.

At least one member of the Committee shall have accounting or related financial management expertise. All members of the Committee that are not financially literate will work towards becoming financially literate to obtain a working familiarity with basic finance and accounting practices. For the purposes of the Company's Charter, the definition of "financially literate" is the ability to read and understand a set of financial statements that present a breadth and level of complexity of accounting issues that are generally comparable to the breadth and complexity of the issues that can presumably be expected to be raised by the Company's financial statements.

The members of the Committee shall be elected by the Board of Directors as possible after its first meeting following the annual shareholders' meeting. Unless a Chair is elected by the full Board of Directors, the members of the Committee may designate a Chair by a majority vote of the full Committee membership.

3. MEETINGS

The Committee shall meet at least quarterly, or more frequently as circumstances dictate. As part of its job to foster open communication, the Committee will meet at least annually with the Chief Financial Officer and the external auditors and, if requested by the Committee, in separate sessions.

4. RESPONSIBILITIES AND DUTIES

To fulfill its responsibilities and duties, the Committee shall:

Documents/Reports Review

- a) Periodically review and update this Charter.
- b) Review the Company's financial statements, MD&A, Annual Reports for ASX purposes, and any annual and interim earnings press releases before the Company publicly discloses this information and any reports or other financial information (including quarterly financial statements), which are submitted to any governmental body, or to the public, including any certification, report, opinion, or review rendered by the external auditors.

External Auditors

- a) Review annually, the performance of the external auditors who shall be ultimately accountable to the Board of Directors and the Committee as representatives of the shareholders of the Company.
- b) Obtain annually, a formal written statement of external auditors setting forth all relationships between the external auditors and the Company, consistent with Independence Standards Board Standard 1.
- c) Review and discuss with the external auditors any disclosed relationships or services that may impact the objectivity and independence of the external auditors.
- d) Take, or recommend that the full Board of Directors take, appropriate action to oversee the independence of the external auditors.
- e) To ensure a rotation of the lead audit partner as required, and to consider whether there should be a regular rotation of the external audit firm itself.
- f) Request the external auditors to provide to any reports which they are required to provide, such as a description of the external auditors' internal quality-control procedures, any material issues raised by the most recent internal quality-control review, peer review, or Canadian Public Accountability Board (CPAB) review, as applicable.
- g) Recommend to the Board of Directors the selection and, where applicable, the replacement of the external auditors nominated annually for shareholder approval.
- h) At each meeting, consult with the external auditors, without the presence of management, about the quality of the Company's accounting principles, internal controls and the completeness and accuracy of the Company's financial statements.
- i) Review and approve the Company's hiring policies regarding partners, employees and former partners and employees of the present and former external auditors of the Company.
- j) Review with management and the external auditors the audit plan for the year-end financial statements and intended template for such statements.
- k) Review and pre-approve all audit and audit-related services and the fees and other compensation related thereto, and any non-audit services, provided by the Company's external auditors. The pre-approval requirement is waived with respect to the provision of non-audit services if:
 - i. the aggregate amount of all such non-audit services provided to the Company constitutes not more than twenty percent of the total amount of revenues paid by the Company to its external auditors during the fiscal year in which the non-audit services are provided;

- ii. such services were not recognized by the Company at the time of the engagement to be non-audit services; and
- iii. such services are promptly brought to the attention of the Committee by the Company and approved prior to the completion of the audit by the Committee or by one or more members of the Committee who are members of the Board of Directors to whom authority to grant such approvals has been delegated by the Committee.

Provided the pre-approval of the non-audit services is presented to the Committee's first scheduled meeting following such approval such authority may be delegated by the Committee to one or more independent members of the Committee.

5. FINANCIAL REPORTING PROCESSES

- a) In consultation with the external auditors, review with management the integrity of the Company's financial reporting process, both internal and external.
- b) Consider the external auditors' judgments about the quality and appropriateness of the Company's accounting principles as applied in its financial reporting.
- c) Consider and approve, if appropriate, changes to the Company's auditing and accounting principles and practices as suggested by the external auditors and management.
- d) Review significant judgments made by management in the preparation of the financial statements and the view of the external auditors as to appropriateness of such judgments.
- e) Following completion of the annual audit, review separately with management and the external auditors any significant difficulties encountered during the course of the audit, including any restrictions on the scope of work or access to required information.
- f) Review any significant disagreement among management and the external auditors in connection with the preparation of the financial statements.
- g) Review with the external auditors and management the extent to which changes and improvements in financial or accounting practices have been implemented.
- h) Exercise oversight of, review and discuss with management, the external auditors:
 - i. the risk of management's ability to override the Company's internal controls;
 - ii. any fraud, of any amount or type, that involves management or other employees who have a significant role in the internal control over financial reporting; and
 - iii. management's compliance with the Company's processes, procedures and internal controls.
- i) Review any complaints or concerns about any questionable accounting, internal accounting controls or auditing matters.
- j) Review certification process.
- k) Establish a procedure for the confidential, anonymous submission by employees of the Company of concerns regarding questionable accounting or auditing matters.

6. RISK MANAGEMENT

- a) To review, at least annually, and more frequently, if necessary, the Company's policies for risk assessment and risk management (the identification, monitoring, and mitigation of risks).

- b) To request the external auditor's opinion of management's assessment of significant risks facing the Company and how effectively they are being managed or controlled.
- c) To assess the effectiveness of the over-all process for identifying principal business risks and report thereon to the Board.
- d) Review, discuss with management and assess the Company's privacy and cybersecurity risk exposures.
- e) Review and discuss with management the adequacy of the Company's insurance programs.

7. OTHER

- a) Review and approve any related-party transactions and material asset dispositions.
- b) Perform self-evaluations on a regular basis.
- c) Review any other matters specifically delegated to the Audit Committee by the Board.