



# INVESTING IN THE EV FUTURE

## Manganese X Mission

To become the first publicly traded mining company  
in Canada and the US to commercialize high-purity EV-compliant  
manganese



FSE: 9SC    TRADEGATE: 9SC    TXSV: MN    OTCQB: MNXXF

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Certain statements in this presentation are forward-looking statements which may include, but are not limited to, statements with respect to the future financial or operating performance of Manganese X Energy Corp. and its projects, the market conditions, business strategy, corporate plans, objectives and goals, the estimates of the timing, cost, nature and results of corporate plans, the strategy for the development of Manganese X Energy's property and regulatory matters. Forward-looking statements involve known and unknown risks, uncertainties, assumptions and other factors that may cause the actual results, performance or achievements of Manganese X Energy Corp. to be materially different from any future results, performance or achievements expressed or implied by the forward-looking statements. Forward-looking statements address future events and conditions and therefore involve inherent risks and uncertainties. Although Manganese X Energy Corp. believes that such expectations are reasonable, there can be no assurance that such expectations will prove to be correct, and therefore actual results may differ materially from those currently anticipated in such statements. You are cautioned not to place undue reliance on any such forward-looking statements, whether made in this presentation or in any question-and-answer period related to this presentation.

# MANGANESE X ENERGY VALUE PROPOSITION



## Strategically Located

The Battery Hill manganese deposit is strategically located in New Brunswick, Canada, with proximity to North America and Europe's top consumer of manganese



## Simple Metallurgical Process

Battery Hill carbonate ore is easily leachable, allowing for direct production of high-purity battery -grade manganese sulphate. A provisional patent has been recently applied for this unique process



## Potential for Large Resource and Multiple Products

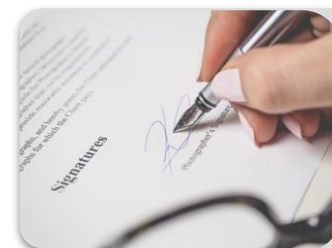
Battery Hill project mineral resource estimate consists of 34.86 million tonnes of measured and indicated mineral resources grading 6.42% manganese plus an additional 25.91 million tonnes of inferred mineral resources grading 6.66% manganese utilizing a 2.5% manganese cut-off grade that reflects total operating costs having reasonable prospects for economic extraction.

Sensitivity analysis of the Battery Hill deposit to cut-off grade indicates 12.25 million tonnes of measured and indicated mineral resources at 8.77% manganese and 10.61 million tonnes of inferred mineral resources grading 9.05% manganese utilizing a cut-off grade of 7% manganese



## Great Upside at Lower Risk

Kemetco's metallurgical research projects have yielded economic results and state of the art technology that has resulted in the advancement of our published PEA. Our processing costs are extremely economical



## In Collaboration with Downstream Players

The company has signed a collaboration agreement with ev makers, OEM's and cathode materials producer

# BATTERY MINERALS AND TECHNOLOGY ASSETS

## Primary Corporate Assets

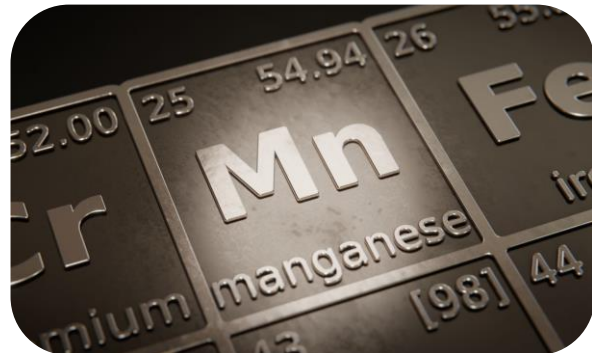
- ★ Flagship Asset - Battery Hill Manganese Deposit (47 year mine life based on PEA)

## Other Assets

- ★ Peter Lake Nickel-Cobalt project
- ★ Disruptive Battery Corp.

## Patent and Process

- ★ High Purity Manganese Patent pending extraction processing technology in progress



# BATTERY HILL

## Responsible and Ethical Source of Manganese



- The Battery Hill project consists of 55 claims totaling 1228 hectares located in New Brunswick
- It encompasses all or part of five Manganese zones, Iron Ore Hill, Moody Hill, Sharpe Farm, Maple Hill and Wakefield
- The deposits have excellent location, being approximately 5 km northwest of the town of Woodstock and are easily accessible from the Trans-Canada highway via all-weather roads
- It is strategically situated 12 kilometers from the US (Maine) border, near existing power transmission lines, railway and road access that provide suitable transport to major shipping lanes on the Atlantic Ocean and Saint Lawrence Seaway



# BATTERY HILL Manganese Mineral Deposit

## PEA

- Recent PEA produced by WOOD PLC. determined robust economics and commercial viability

## Pre-feasibility drill program

- Completed Battery Hill infill and step-out drilling program, consisted of **35 drill holes** totalling **4700m** which will expand measured and indicated resources in preparation of upcoming pre-feasibility study in **3rd quarter 2023**

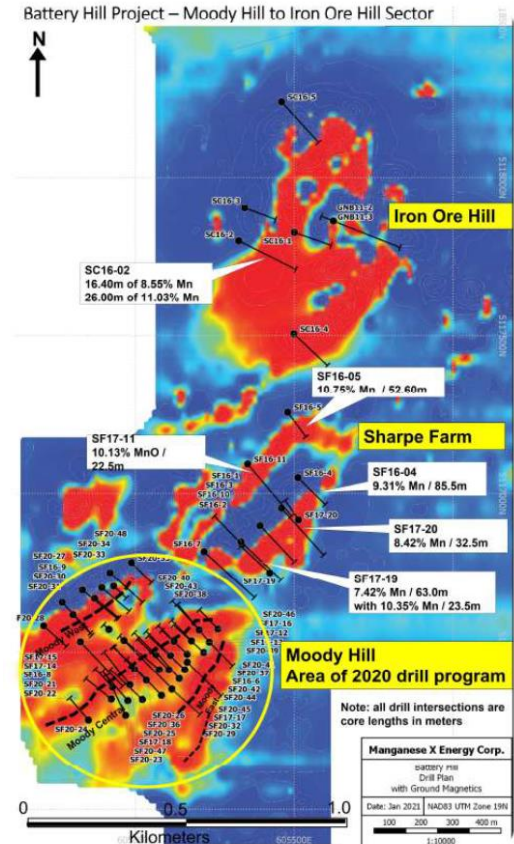


## Mineral Resource

- Sensitivity analysis of Battery Hill deposit to cut-off grade indicates 12.25 million tonnes of measured and indicated mineral resources at 8.77% manganese and 10.61 million tonnes of inferred mineral resources grading 9.05% manganese, utilizing a cut-off grade of 7% manganese

## Annual Production (PEA)

- 47 years of production with average production approximately of 75,000 tonnes HPMSM with potential for expansion



## Robust Economics

- After-tax net present value using a 10% discount rate ("NPV10"): **\$486 million**
- **25% internal rate of return** ("IRP")
- Capital costs ("CAPEX") of **\$350 million** with a **payback of 2.8 years**
- Average annual gross revenue of **\$177 million** per year over the **47 years Project life**
- Life of mine ("LOM") operating cost ("OPEX") of **\$122/t material processed**

## HPMSM Market Price

- Base case market price of **\$2,900/t** for battery-grade high-purity manganese sulphate ("HPMSM") is well below the long-term forecast price of **\$4,200/t** HPMSM estimated by CPM Group

## Price Sensitivity

- Base case undiscounted after-tax cash flow: **\$3.4 billion**
- Sensitivity analysis shows after-tax NPV10 reaches **\$914 million** at **\$4,200/t** HPMSM

## Long Mine Life

- Potential to expand production. If the market is there we can double the production to meet the demand
- **40-year mine production life** and seven years of stockpile reclaim feed
- Total LOM production of **3.2 million tonnes** of HPMSM
- Average annual HPMSM production of **68,000 tonnes** over the LOM
- Average annual HPMSM production of **84,000 tonnes** in the first seven years of production

## Low Environmental Impact

- Flowsheet produces a filtered residue leach product with initial acid-base accounting and non-acid generating test results showing no acid drainage risk of production
- No tailings pond (dry stacking)

## Project Objectives

- Project is now advancing towards a pilot project, pre-feasibility study as well as advancing a drilling program to upgrade and expand manganese resources
- Pilot project has been started and the project is now advancing towards a pre-feasibility study

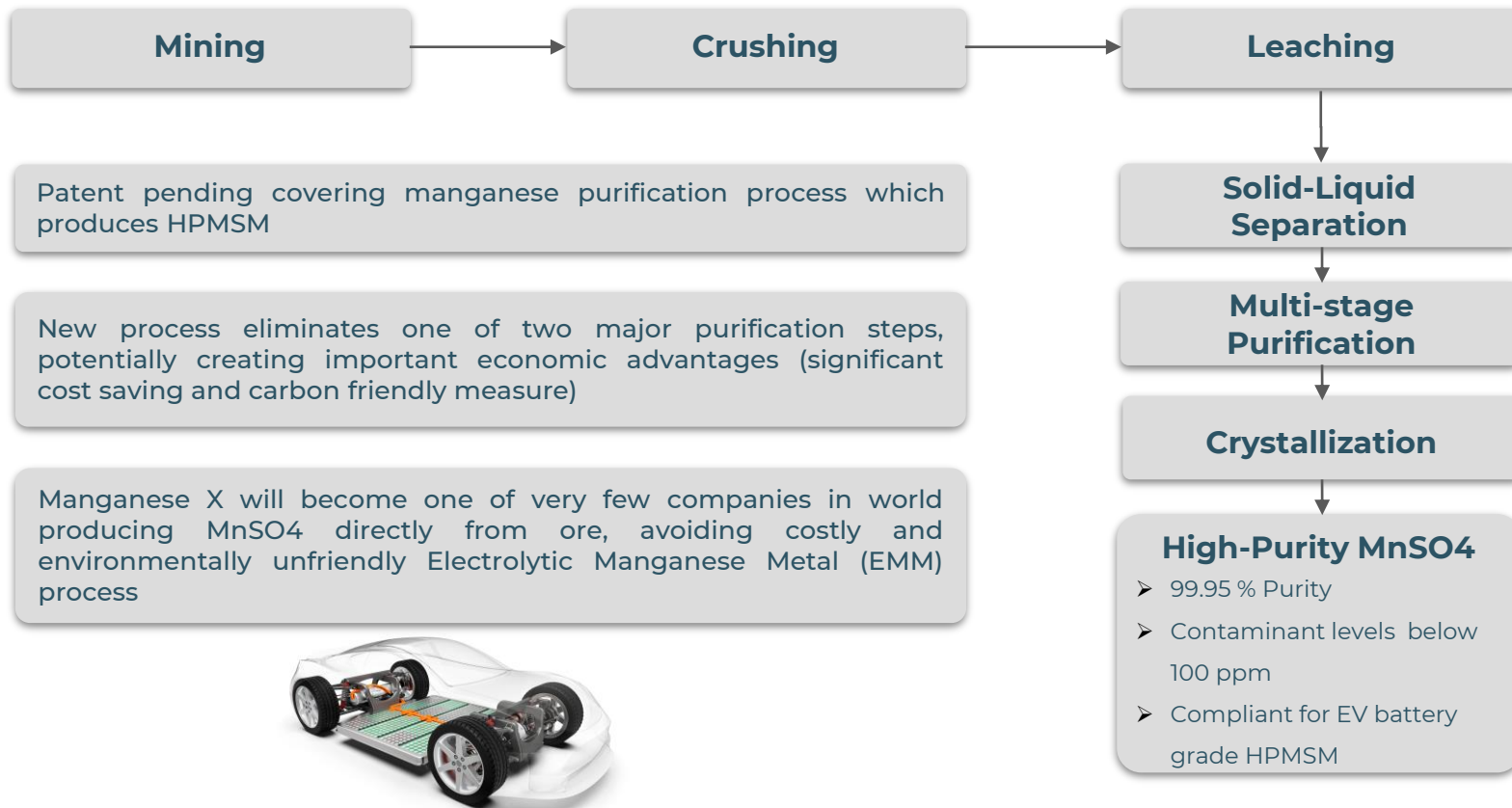
# WHAT MAKES US SO SPECIAL?

- ✓ The cathode (40-60% battery cost) is the energy source of the lithium-ion battery. It has the greatest impact on battery performance, safety and price. Our high-purity manganese sulphate monohydrate (HPMSM) is a key constituent to the cathode
- ✓ Developed selenium free cost-saving, economical and game changing
- ✓ High Purity Manganese extraction process patent-pending technology
- ✓ One of the largest MN carbonate deposits in North America which will supply HPMSM to the Battery Supply Chain
- ✓ Successfully completed a PEA with robust economics, fast-tracking directly into completion of plant pilot project and pre-feasibility study
- ✓ Pursue negotiations with multi-national companies to explore future development and sales of our value-added manganese materials to the North American markets



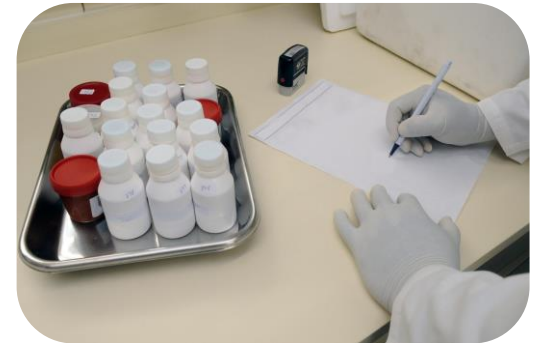
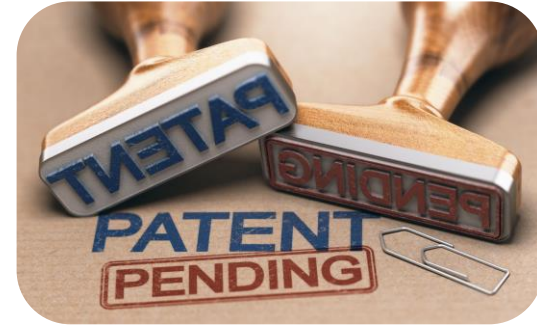


# PATENT PENDING PROCESS



# Patent Pending - Eliminating Major HPMSM Standard Processes

- ✓ The EMM production process requires excessive electrical costs for electroplating and electrowinning and is not environmentally friendly. In addition, it must be then converted to a HPMSM end-product before EV battery production
- ✓ All contaminant levels, including calcium and magnesium, are below 100 parts per million, a crucial threshold level for battery-grade HPMSM
- ✓ High purity final product contains no selenium, considered a toxic pollutant and yet utilized by some of the existing HPMSM producers worldwide to reduce their costs of production



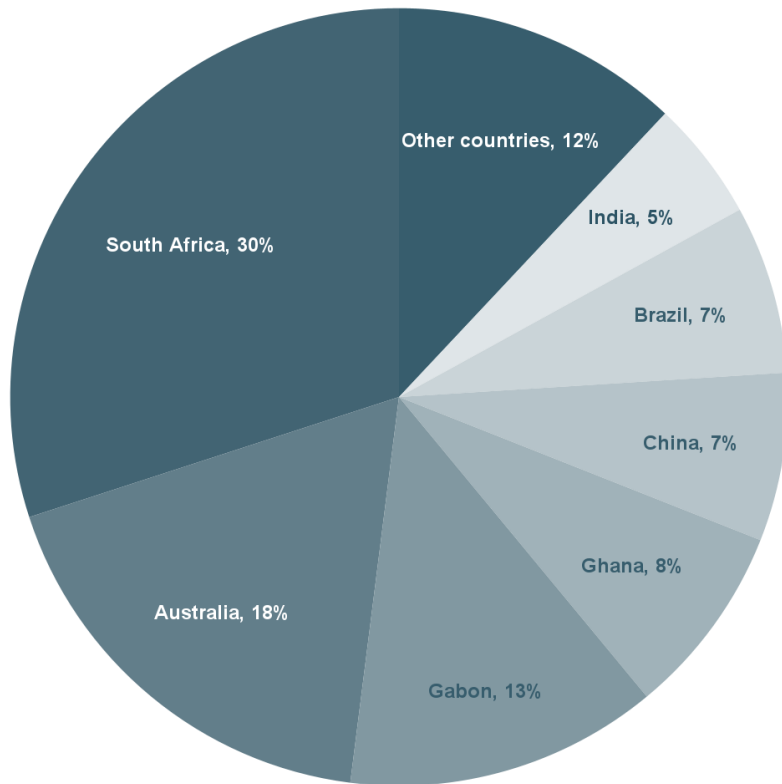
# Plant Pilot Project

Complete plant pilot project by the second quarter 2023 will produce HPMSM EV compliant samples on larger and economic scale validating our technology

HPMSM samples from plant pilot project will be tested and evaluated for EV cathode pre-approval qualification



# NORTH AMERICA IS DEPENDENT ON MANGANESE IMPORTS



Presently, there is no manganese mining production in the United States or Canada. Manganese ore production is dominated by South Africa, with over a third of the total, followed closely by Australia and China

Manganese X Energy has the potential to become **North America's most significant supplier of manganese** products for the North American and European markets



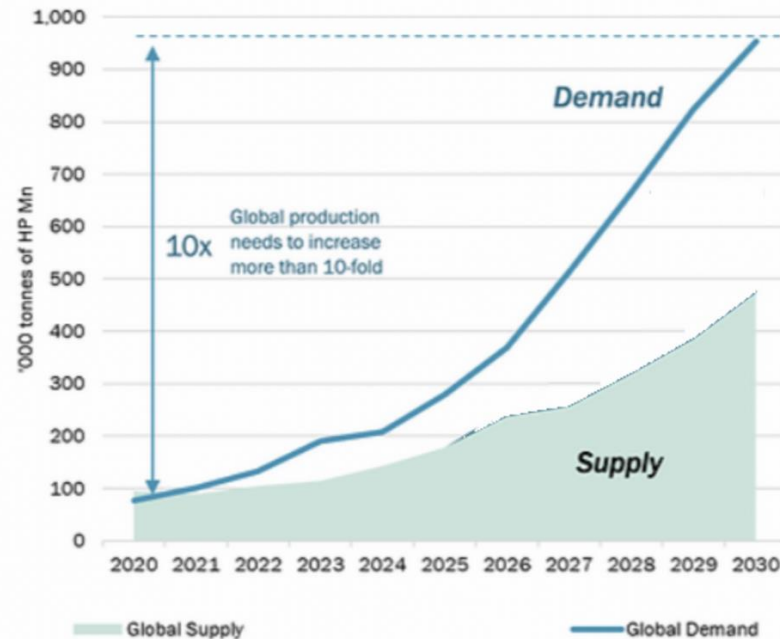
# High Purity Manganese Demand & Supply

Manganese is industrially, economically, and strategically vital to the future of the EV industry. **High purity Manganese demand** is expected to surge by **over 10x** between **2020** and **2030**, with the market facing severe and growing shortages

**China** produces over **90%** of the world's high purity electrolytic Manganese metal (HPEMM) and high purity Manganese sulphate monohydrate (HPMSM) – the only ones that can be used in Li-ion battery production

In two of the three most common types of Li-ion batteries, Nickel Manganese Cobalt (NMC) and Lithium Manganese Oxide (LMO), Manganese constitutes between **20% to 61%** of the cathode's composition

**Global High Purity Manganese Demand & Supply to 2030**  
(thousand tonnes of Mn)





# WHY MANGANESE X IS A GOOD INVESTMENT?

- ✓ Our  $\text{MnSO}_4$  is 99.95% pure, contains few impurities and is free of selenium, which is highly toxic to batteries
- ✓ 90% of the global capacity for production of high-purity manganese sulphate for EV batteries is located in China
- ✓ There is currently no production of manganese in North America
- ✓ The **price of manganese metal has increased** well over **100% in 2021**
- ✓ Our Manganese is a carbonate ore and is **much more environmentally friendly** than a manganese oxide ore
- ✓ **Strategically located 12 km from the U.S. (Maine) border**
- ✓ **We have recently completed our robust economic PEA and started our pilot project**
- ✓ TESLA, VW, Ford, GM plan to build new electric vehicles or gigafactories in Canada
- ✓ Our Phase 3 processing and metallurgical work have been completed



- ✓ **Tesla** projected to put into operation 5 new Gigafactories around the world in the next 5 years. The new Tesla 4680 battery contains 33% manganese in the cathode
- ✓ **Volkswagen** intends to build 6 new Gigafactories by 2030
- ✓ **GM** is investing \$10 billion in developing 25 EV models
- ✓ **Ford** is forecast to invest \$22 billion through 2025 into their Hybrid EV vehicle projects
- ✓ The new **BASF** EV battery uses 70% manganese in the cathode
- ✓ Major EV companies such as Tesla, Volkswagen and Stellantis, the merger of Fiat and Chrysler, are now utilising manganese-nickel chemistries in their batteries
- ✓ By **2030**, experts predict 240 worldwide mega-factories utilizing manganese as their prime mineral



# WHY MANGANESE IS A BETTER CHOICE THAN COBALT

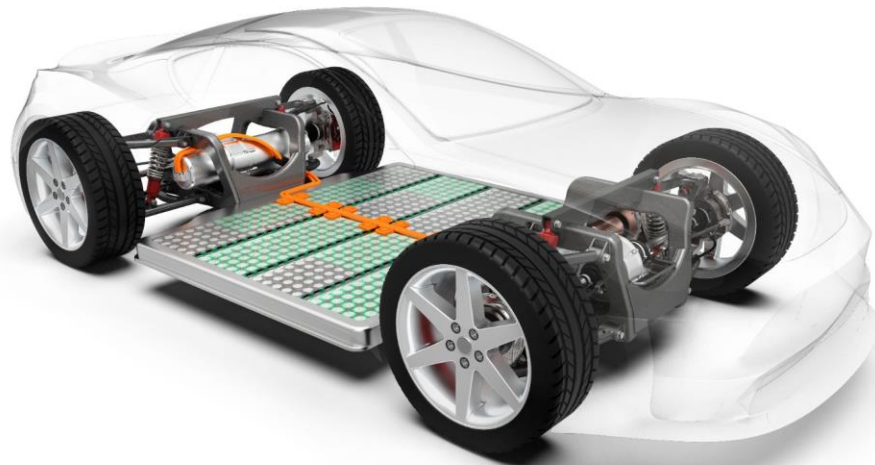
## Manganese is vastly more affordable

Manganese trades **11-37 times cheaper** than cobalt which is much more cost effective in the EV cathode

Manganese can be mined ethically

Manganese-based batteries are **safer than cobalt-based batteries**

Manganese batteries are more stable, less toxic, more robust, denser, have quicker charging power as well as longer distance performance and are much more economical. With the results of our pilot project, we will produce larger samples on a consistent basis



# MANGANESE X ENERGY

## 2023 STRATEGIES AND GOALS

- ✓ We have completed our robust economic Battery Hill PEA and fast-tracking directly into pre-feasibility study
- ✓ Pursue negotiations with a multi-national company to explore future development and sales of our value-added manganese materials to the North American markets
- ✓ Continue to aggressively advance the development of our Battery Hill manganese property and the innovative, cost-effective metallurgical process developed to produce high-purity manganese products to the fast-growing North American lithium-ion battery market
- ✓ Complete pilot project by first quarter 2023 which will produce HPMSM EV compliant samples on a larger and economic scale which will validate our technology. Send out HPMSM samples to requested EV battery makers, OEM's and cathode makers for pre-qualification testing in the cathode







✓ Focus on metallurgy  
from the start to de-risk  
project

✓ Target a key strategic product -  
high-grade manganese  
sulphate for electric vehicles  
and stationary battery systems



✓ Invest in research and  
development of downstream  
products

✓ Partnership with  
downstream players





## Manganese

**2023**

- ★ Pilot Project
- ★ Pre-feasibility Study
- ★ Preparation of Demonstration Plant
- ★ Prepare for the application of environmental and respective mining permits

**2024**

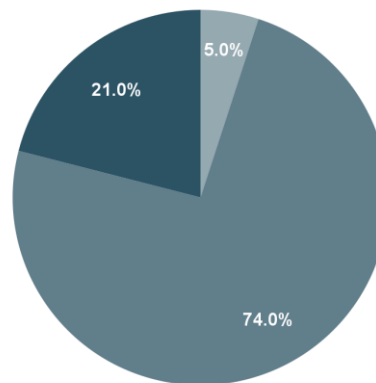
- ★ Complete Pre-feasibility Study
- ★ Continue the application of environmental and mining permits
- ★ Produce high-purity materials in preparation for mining

**2025**

- ★ Prepare mining construction for modular production

# FINANCIAL DETAILS

Number of Shares	124,534,907
Options	11.7 million
Warrants	18,300,492
Shares fully diluted	154,558,339
Market cap (03.2023)	C\$ 29.2 million



## Ownership

- Management & Insiders
- HWI (high worth investors)
- Retailers
- Institutions, 0%



## **Martin Kepman, Chief Executive Officer & Director**

Martin Kepman and Associates Inc., founded in 1982, is a business development and management consulting firm owned and operated by its President Martin Kepman. Martin, in his 34 years of consulting experience, has consulted on a wide range of projects, in multiple industries ranging from software, soft goods, printing and food to mining.



## **Roger Dahn, Chairman of the Board & Director**

Since June, 2016, Mr. Dahn has served as Vice-President of Exploration and significantly advanced the company's Battery Hill project, right from its grassroots start to where it is now awaiting a preliminary economic assessment. In addition to managing and providing leadership to the board of directors, Mr. Dahn (with the full participation and support of the board) will continue to provide guidance and direction to management in advancing Manganese X's Battery Hill project. He will act as a direct liaison between the board and the company's management, through its chief executive officer, Mr. Dahn has over 38 years experience in the mining and exploration industry. His experience includes over 16 years with Noranda Inc. and Hemlo Gold Mines Inc. Mr. Dahn is a registered professional geologist and a qualified person as defined by National Instrument 43-101.



## **Jay Richardson, Chief Financial Officer & Director**

Jay Richardson is a Canadian Chartered Accountant (CA CPA), a Singapore Certified Public Accountant (CPA) and a Fellow of the Insolvency Practitioners' Association of the United Kingdom (FIPA). He has practiced as a Partner at Ernst & Young (Canada and Singapore) and KPMG (UK) prior to establishing his own practice as a company doctor in Toronto, Canada in 1993. He has served as the CEO or Chairman of ten listed public companies and as CFO of numerous others. He has extensive public company governance experience from over one and a half dozen Board memberships including having served as Interim Chairman of the Argus Corporation.



## **Perry MacKinnon, Vice-President of Exploration**

Perry MacKinnon, PGeo, graduated in 1982 from Acadia University in Wolfville, N.S. (BSc, geology), and is an accredited professional geologist with the respective professional associations in Nova Scotia and New Brunswick. Mr. MacKinnon has over 30 years experience in the mining industry, having worked continent-wide on a variety of projects including the Alaskan Cordillera, the greenstone belts of Northern Manitoba and Quebec, and an array of mineralizing environments in Atlantic Canada, as well as porphyry-style projects in Mexico. He has worked as an independent consultant since 2005, with a significant focus on Canada's east coast. Mr. MacKinnon is a registered professional geologist and a qualified person as defined by National Instrument 43-101.



## **Luisa Moreno, Ph.D., Director**

Dr. Moreno possesses unparalleled expertise in strategic minerals and related processes. She is currently Founder and Managing Director at Tahuti Global. Prior to this, she spent 7 years as a Financial and Senior Equity Analyst at Canadian financial research and investment banking firms. She now serves as CEO of Graphano Energy Ltd. ("GEL"), the significant, separately listed graphite recent (Sept. 2021) spin-out from MN.



## **Robert Tjandra, Director**

Mr. Tjandra brings with him a unique blend of professional management, leadership, and entrepreneurial skills, and has over 25 years of combined experience, working, consulting, and developing businesses in construction, trading, oil and gas, fintech, and cleantech. He is passionate about the development of EV and energy storage, including sustainable mining development. Mr. Tjandra has served on various listed companies. He served as the President, Chief Operating Officer, and director of Canbud Distribution Corporation (CSE: CBDX). He currently serves as a Director of Florence Wealth Management Inc. (a registered Exempt Market Dealer in Canada), and as CEO and Chairman of Mineto Power Corp., a private company in EV materials and Tech space.





*"It is our corporate mandate to become the first publicly traded manganese company in North America to pursue commercialization of a manganese deposit."*

*The company is currently proceeding with a plant pilot project for demonstration purposes that will be capable of repeatedly and consistently generating sufficient EV compliant high purity manganese for end use testing for potential off take possibilities as this will then be followed up with a pre-feasibility study (PFS) as well as the due diligence to document it. Upon conclusion and confirmation of the economic viability of our 100% owned Battery Hill Manganese Project, we will move to the next phase and start commercialization.*

*The EV revolution is underway and innovative battery chemistry will be the catalyst that moves us into an interesting future. We believe that manganese will have a big influence over EV batteries and this will position Manganese X to take advantage of the growing demand for EV batteries."*

**Martin Kepman, CEO of Manganese X Energy Corp.**

FOR FURTHER INFORMATION  
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**+1-514-802-1814**

**THANK YOU**