With the Highest-Grade Manganese Deposit in North America, Electric Metals is Poised to Become a Significant Domestic Producer of High-Value, High-Purity Manganese Products for the EV Battery, Technology, and Industrial Markets

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TSXV: EML OTCQB: EMUSF

www.electricmetals.com

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Table of Contents

Manganese…the less talked about critical mineral

The 4th most used metal on the planet.

It's used in making:

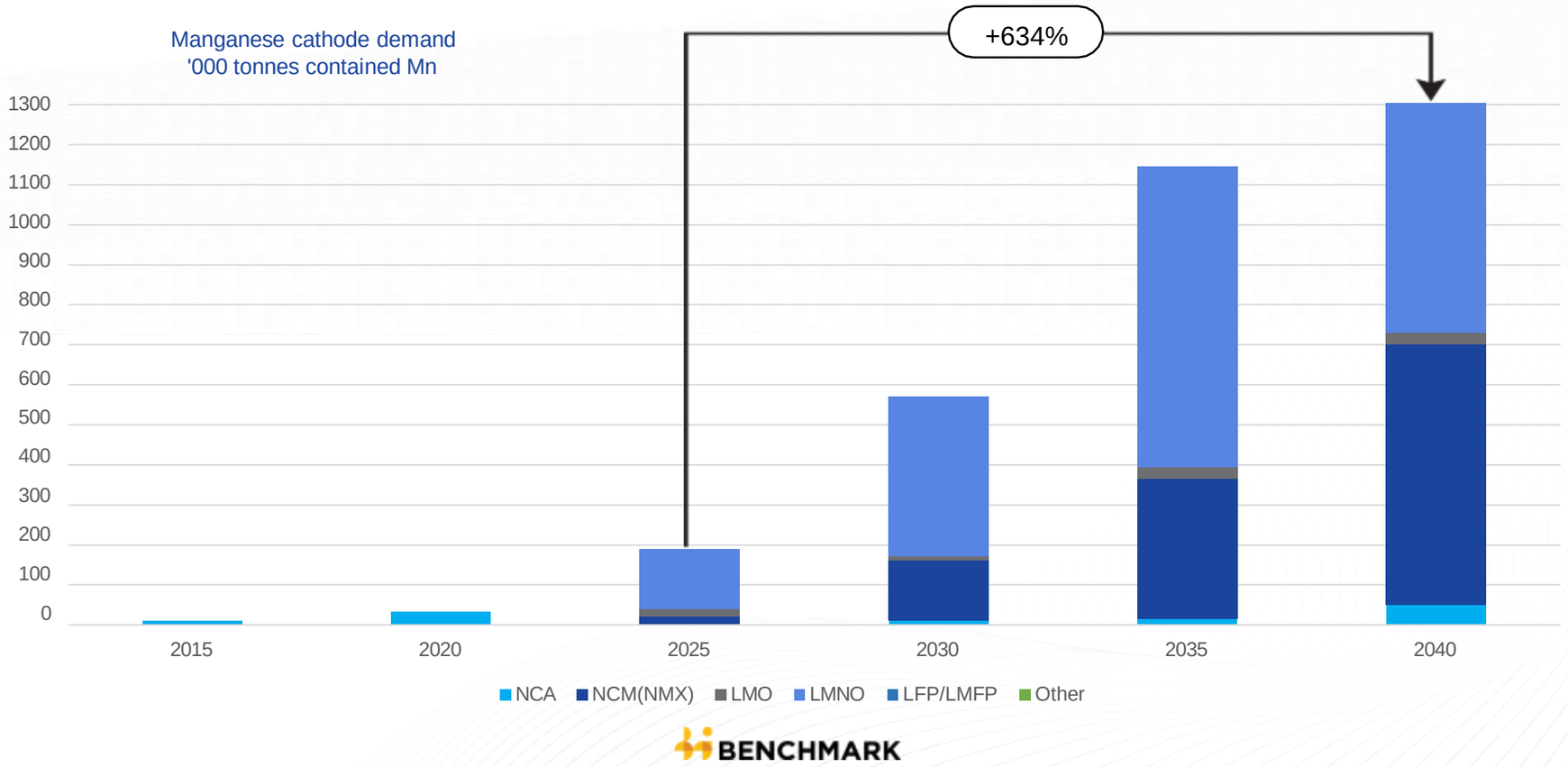
- Steel
- Metal Alloys
- **Batteries**
- Aluminum Cans
- Fertilizer
- Animal Feed
- Wastewater Treatment
- Water Purification

Manganese is used in 60% of all EV batteries, including:

NMC	nickel manganese cobalt
LMFP	lithium manganese iron phosphate
LMR	lithium and manganese-rich
LMO	lithium manganese oxide
LMNO	lithium manganese nickel oxide
NMCA	nickel manganese cobalt aluminum
NMX	nickel manganese other

Manganese Demand by Battery Chemistry

The electrification of the global transportation fleet coupled with other energy storage applications will drive incremental demand for high-purity manganese products.



The U.S. is Reliant on Manganese Imports from Foreign Entities of Concern

U.S. imports 100% of its manganese

China controls ~96% of global HPMSM production capacity

Manganese ore is being shipped to China mainly from Africa for processing into high-purity products and then shipped to the United States.

This elongated supply chain adds to carbon emissions and is in direct conflict with mandated climate change policies.

A closed-loop, domestic U.S. supply chain would lessen supply disruptions, lower emissions and reduce the reliance on foreign imports.

Why Domestic Supply Matters

National Security

- Designated critical mineral
- Used in making steel, batteries, and industrial applications.
- There is **NO domestic production**
- 100% manganese imported
- China controls ~96% of HPMSM production

Economic Stability

- Ensures stability of supply
- Reduces reliance on foreign suppliers
- Creates jobs
- Stimulates economic growth

Technological Advancement

- Essential component in batteries, particularly lithium-ion batteries used in EV's and renewable energy storage systems
- As demand grows, ensuring a stable domestic supply is crucial for maintaining technological advancement and competitiveness

Environmental Concerns

- Mining and processing can have environmental impact
- Producing domestically ensures adherence to stricter environmental regulations and more sustainable mining and processing practices
- Reduces carbon emissions

39 North American Battery Initiatives

"The USA depends on unreliable foreign sources for many of the strategic and critical minerals necessary for the clean energy transition. Demand for such materials is projected to increase exponentially as the world transitions to a clean energy economy"[1]

[1] Presidential Action under U.S. Defense Production Act, 2022

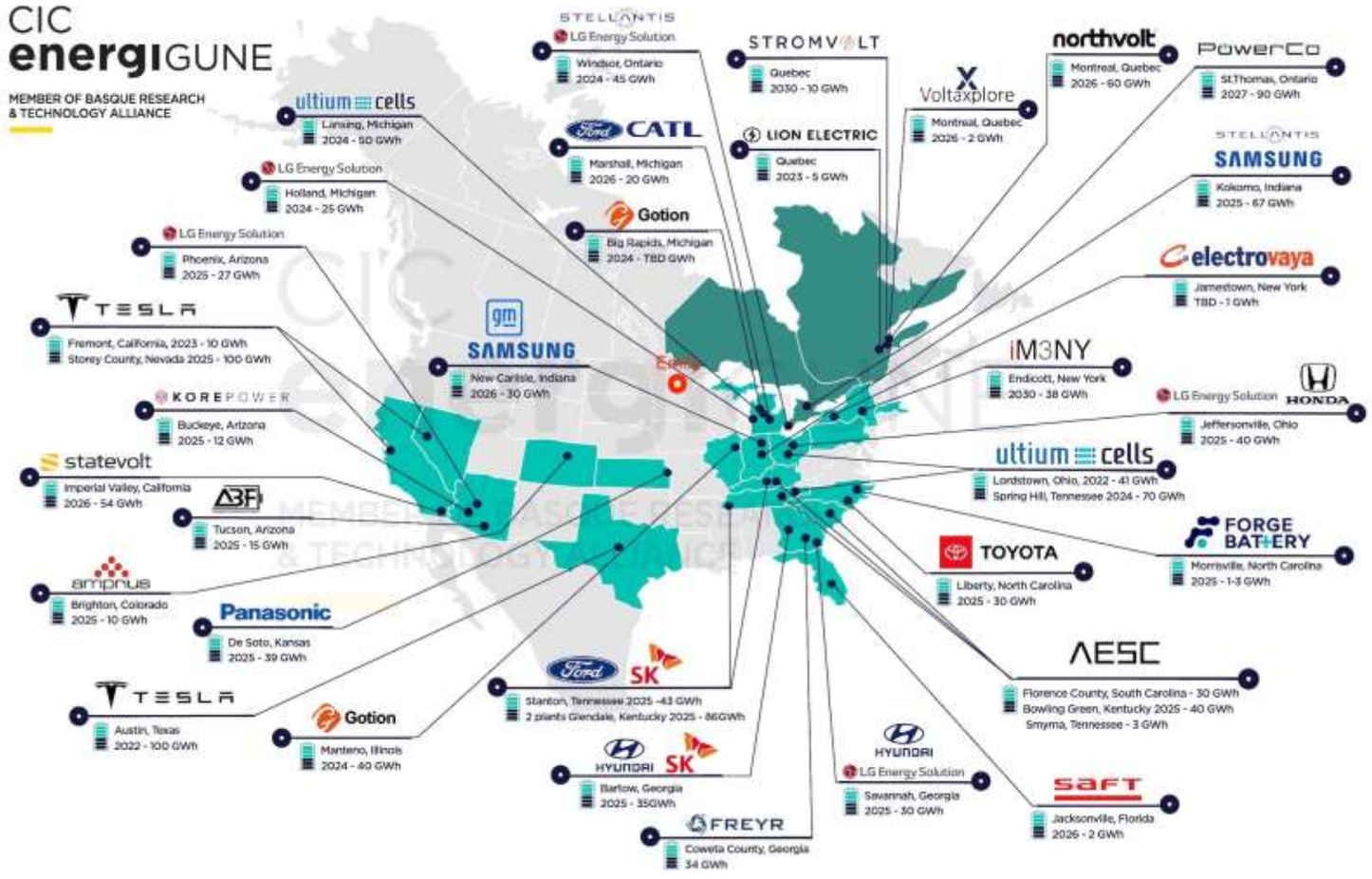


Table of Contents

Mission

Become a significant producer of high value, high purity manganese products to supply the North American EV battery, technology, and industrial markets from the highest-grade manganese mine in North America.

Highly Differentiated Resource

Highest-Grade Manganese Deposit in North America

- NI 43-101 resource with 10% cutoff grade averages 19.3% manganese at indicated levels and 17.5% at inferred levels
- Several historical drill holes have intersected grades above 50% manganese

Large Deposit

- Roughly 2.1 million tonnes of contained manganese in indicated and inferred classifications assuming 10% cutoff grade; roughly 4.2 million tonnes assuming 5% cutoff grade (based on NI 43-101)
- Independent modelling of over 70 historical drill holes suggests a much larger deposit
- Resource could allow for well over 50-year mine life

Location, Location, Location

- Strategically located near the industrial heartland of America
- Infrastructure and local ecosystem in place due to long history of mining in the region
- Avoids costly, unreliable and complex overseas supply chains

Significant Capital Already Invested

- Millions invested in technical studies, drilling, local infrastructure, process development and pilot processes
- Provides valuable knowledge about the resource as well as mill buildings that can be leveraged

Compelling Industry Dynamics

Favorable Regulatory and Operating Environment

- Manganese added to the U.S. Government Critical Elements list in 2018
- The U.S. government is moving to increase domestic production of critical minerals by reducing bureaucracy, streamlining permitting and approval processes, and offering financial incentives and funding assistance through the U.S. Infrastructure Investment and Jobs Act (2021) and Inflation Reduction Act (2022)
- Significant tax incentives, grants, and low/no interest loans potentially available
- Minnesota has a long history of favorable mining laws and support of new “oxide’ projects

Recession Resistant

- Demand for high purity manganese is expected to surge ten-fold by 2030 due to demand for electric vehicles

Low Substitution Risk

- Battery chemistries with manganese are expected to continue to dominate the EV market
- New manganese-rich cathode formulations are expected to reduce cost with good range, power, safety, and charging performance

Domestic Supply Constraints

- The U.S. currently imports 100% of its manganese
- There are no North American suppliers of manganese, no stockpiles, no substitutes, and no active mines

Emily Manganese Project Location

POWER & GAS

- Adjacent 69 AC power line and three larger lines nearby
- Major trunk gas pipeline 20 miles south

SKILLED MINING WORKFORCE

- Minnesota supplies > 90% of domestic U.S. iron ore production; Emily can leverage off the existing skilled workforce.

MAJOR HIGHWAYS

- Site located off State Highway 6 and ~100 miles to I-35 and 150 miles to I-94

PORTS

- Major transportation centers for the shipment of bulk commodities

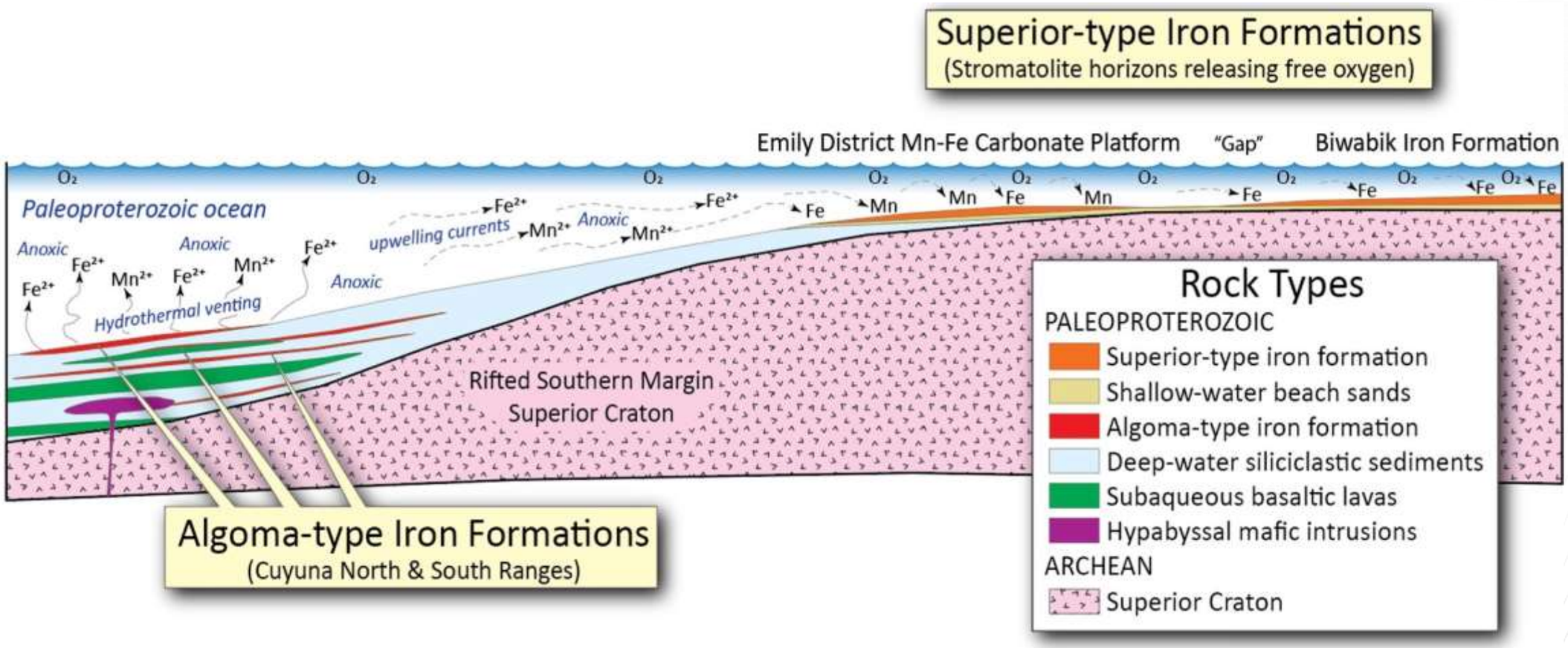
AIRPORTS

- Proximity to regional and international airports

RAIL

- Tier One BNSF Railroad nearby

How the Emily District was Formed



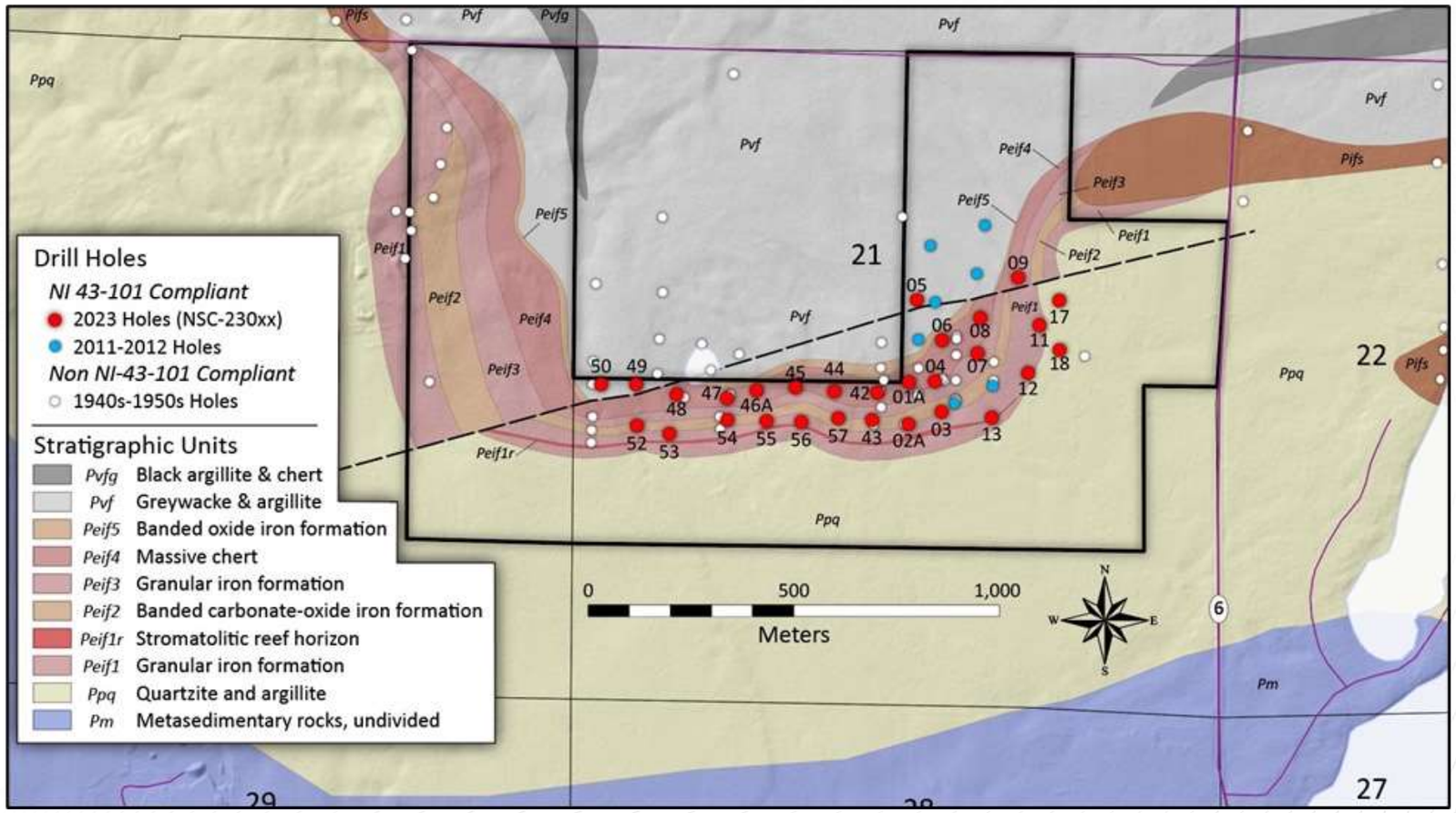
Extensive Historical Drilling

Company	Period	Drill Holes	Footage	NI 43-101
Pickands Mather	1940s	24	8,512	No
US Steel	1950s	41	17,743	No
US Bureau of Mines and Others	1990s	5	2,022	No
Cooperative Minerals	2010s	8	4,408	Yes
Electric Metals	2023	29	13,107	Yes
Total Drilling		107	45,792	

Historical drilling was completed by companies that were renowned for putting into production profitable mines. Most of the drill core and related assay data are preserved and archived in Hibbing, Minnesota at the MN DNR drill core repository.

Emily Mineral Resource Footprint

The upgraded Mineral Resource Estimate is based on a geological model incorporating data from 29 diamond core holes drilled by NSM in 2023 in the eastern and central portion of the Emily Manganese Deposit, and historical drilling data from 7 diamond core holes drilled in 2011 and 2012 in the eastern portion of the deposit, as shown below.



Confirmed High-Grade NI 43-101 Resource

NI 43-101 EMILY MANGANESE PROJECT RESOURCE ESTIMATE CALCULATED BY FORTE DYNAMICS, MAY 2024

Class	Cutoff (Mn%)	Metric Tons (kt)	Density (g/cm^3)	Mn (%)	Fe (%)	SiO_2 (%)
Indicated	15	4,264	3.08	22.3	21.7	25.8
	10	6,234	3.10	19.3	22.4	29.4
	5	14,475	2.98	12.1	22.2	38.0
Inferred	15	3,185	3.12	20.3	20.4	29.7
	10	4,915	3.15	17.5	20.4	32.3
	5	9,603	3.01	12.1	20.3	33.8

Mineral Resources are not Mineral Reserves and have not been demonstrated to have economic viability. There is no certainty that the Mineral Resource will be converted to Mineral Reserves. The quantity and grade or quality is an estimate and is rounded to reflect the fact that it is an approximation. Quantities may not sum due to rounding.

Emily Metallurgical Test Work Results

Achieved >95% HPMSM Leach Extractions

- ✓ Confirmed the potential for producing High-purity Manganese Sulfate Monohydrate (HPMSM), Electrolytic Manganese Metal (EMM), Electrolytic Manganese Dioxide (EMD / MnO_2) from the Emily manganese deposit
- ✓ Manganese extraction rates exceeded 95% in leach tests
- ✓ Effective removal of impurities, including iron, potassium, and other trace elements, was achieved
- ✓ Crystallization tests yielded HPMSM aimed for the battery-materials market
- ✓ The test work provides a strong foundation for the future development of a full-scale processing plant, including flowsheet refinement and further process optimization

Historical Metallurgical Test Work

- United States Bureau of Mines 1990 – 1992
- Coleraine Minerals Research Laboratory 1995, 2009, 2011
- Barr Engineering Process Development 2013

Barr Engineering Test Work Produced:

EMM	Electrolytic Manganese Metal
EMD	Electrolytic Manganese Dioxide
$MnCO_3$	Manganese Carbonate

Emily Project Phased Development

Phase I

- Design drill program to upgrade to measured resources and obtain other technical data
- Initiate minerology, ore characterization, crushing, and grinding studies for mine design and environmental studies
- Advance metallurgical test work, flow sheet assessment, and initial production of commercial chemical products for product development
- Initiate scoping study for processing plant design, including site identification
- Initiate baseline environmental studies for Emily site
- Continue to engage stakeholders, foster transparency, and build support for the project

Phase II

- Undertake geological, geotechnical and environmental drilling program
- Initiate scoping study on preliminary mine design
- Metallurgical test work and flow sheet design
- Develop mine permitting plan and initiate ore and waste characterization studies
- Complete scoping study for processing plant design and site location
- Optimize processing plant design and initiate pre-feasibility study for processing plant
- Continue to engage stakeholders, foster transparency, and build support for the project

Phase III

- Prepare NI 43-101 resource update
- Finalize pre-feasibility study for processing plant development
- Continue baseline environmental studies at Emily site and ore and waste characterization studies
- Advance pre-feasibility study for mine development
- Advance mine and plant permitting
- Continue to engage stakeholders, foster transparency, and build support for the project

Near Term Catalysts for Revaluation

- **Positive scoping study for high-grade Emily Manganese Deposit**
- **Potential non-dilutive funding: Department of Defense and/or Department of Energy grants, royalty financing**
- **Strategic Partnerships: Offtake agreements with battery and auto manufacturers**
- **Design and construction decision of HPMSM plant**

Corporate Snapshot

TSXV: EML OTCQB: EMUSF

CAPITAL STRUCTURE AT December 18, 2024	
Shares Outstanding	150,549,683
Options Outstanding (Weighted average exercise price of C$0.26)	13,400,000
Warrants Outstanding (Weighted average exercise price of C$0.32)	34,560,990
Deferred Share Units	793,376
Fully Diluted Shares Outstanding	199,304,049
Market Capitalization	C$7.55M
MAJOR SHAREHOLDERS	
Green Mineral Investors LLC	16.3%
Gary Lewis	11.4%

MULTI-DISCIPLINARY EXECUTIVE TEAM & BOARD

Mr. Brian C Savage
CEO & DIRECTOR
Entrepreneurial business executive with a history of identifying, building, growing, and transforming mining and metals businesses.

Dr. Quinton Hennigh
CHAIRMAN
Internationally renowned exploration geologist with 33+ years of experience. He holds an MS and PhD in geology and geochemistry from Colorado School of Mines.

Ms. Natasha Tsai BCOM CPA
CFO
Chartered Professional Accountant with corporate finance and listed company experience in a number of sectors.

Dr. Henry J. Sandri PhD MA
BS DIRECTOR
+40 years in metals and minerals, energy, power and transportation industries in global public and private companies.

Ms. Michèle McCarthy
DIRECTOR
An accomplished corporate director with significant corporate restructuring and regulatory compliance experience.

Mr. Steve Durbin
DIRECTOR
Managing Partner of Quail Bend Capital Partners, a private equity firm focused on companies in the mining and financial technology sectors.

Dr. Sylvia Chen PhD
MBA DIRECTOR
Vice President of Finance at Dundee Precious Metals. An accomplished finance professional with a successful career spanning across global Canadian companies.

Mr. Tyson Hall
DIRECTOR
More than 20 years of global experience and a decade of executive leadership in specialty chemicals, manufacturing, mining, agriculture, and start-ups.

Key Takeaways

- **Highest-grade manganese deposit in North America**
- **Potential for producing HPMSM from Emily manganese deposit confirmed**
- **Multi-disciplined and highly accomplished management team and board**
- **96% of HPMSM produced in China creates U.S. national security issue**
- **Green energy transition is happening, but not without manganese**
- **Social mood, government regulation and incentives are driving the electrification of everything**
- **Electrification of vehicles is driving demand for lithium-ion batteries**
- **60% of EV batteries produced in 2022 included manganese**
- **High-purity manganese Sulfate Monohydrate (HPMSM) demand expected to increase 29x by 2050**
- **Domestic supply of HPMSM is a dream scenario for North American battery manufacturers**

electric metals

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