DEVELOPING BATTERY GRADE MANGANESE FOR THE EV MARKET
BUILDING A GLOBAL BATTERY METALS PLAYER

NOVEMBER 2022
This presentation contains certain forward-looking information and forward-looking statements, as defined in applicable securities laws (collectively referred to herein as “forward-looking statements”). These statements relate to future events or the Company’s future performance. All statements other than statements of historical fact are forward-looking statements. Often, but not always, forward-looking statements can be identified by the use of words such as “plans”, “expects”, “is expected”, “budget”, “scheduled”, “estimates”, “continues”, “forecasts”, “projects”, “predicts”, “intends”, “anticipates” or “believes”, or variations of, or the negatives of, such words and phrases, or statements that certain actions, events or results “may”, “could”, “would”, “should”, “might” or “will” be taken, occur or be achieved. Forward-looking statements involve known and unknown risks, uncertainties and other factors that could cause actual results to differ materially from those anticipated in such forward-looking statements. The forward-looking statements in this presentation speak only as of the date of this presentation or as of the date specified in such statement.

Inherent in forward-looking statements are risks, uncertainties and other factors beyond the Company’s ability to predict or control. For a comprehensive discussion on the risks and uncertainties the reader is directed to the Company’s AIF and MD&A for the year ended December 31, 2021, which are filed on SEDAR at and the Company’s website at giyanimetals.com. Actual results and developments are likely to differ, and may differ materially, from those expressed or implied by the forward-looking statements contained in this presentation.

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Qualified Persons

The Qualified Person (“QP”) (as that term is defined by NI 43-101) responsible for preparing the FS is Michael John Beare, BEng, CEng, MIOM of SRK. Mr. Beare has reviewed and approved the scientific and technical content contained in this news release and verified the underlying technical data. Mr. Beare is independent of the Company and personal inspections of the Project were made by Mr. Beare between December 16 and 18, 2019. The QP in accordance with the Canadian Institute of Mining, Metallurgy and Petroleum Code (“CIM Code”), with responsibility for the reporting of the Mineral Reserve Statement presented is Mr. Beare. The QP under NI 43-101 responsibility for the reporting of the Mineral Resource Statement for the Project is Mr. Peter Gleeson, AIGS, MIMMM (CP), a Corporate Consultant (Resource Geology) with SRK. Mr. Gleeson has the relevant experience in reporting Mineral Resources on various base, precious and ferrous metal assets globally. Mr. Gleeson inspected the Project between the January 17 and 21, 2022. EUR ING Andrew Carter BSc, CEng, MIMMM, MSAMM, SME Technical Director Coffey Geotechnics Ltd. is a QP under NI 43-101 and is responsible for the metallurgical test work results, process engineering, process operating costs and plant and infrastructure capital cost estimates in this presentation. Neither SRK, Tetra Tech nor the QPs of the FS, has or have had previously, any material interest in Giyani or the mineral properties in which Giyani has an interest. The relationship with Giyani is solely one of professional association between client and independent consultant. The FS is prepared in return for professional fees based upon agreed commercial rates and the payment of these fees is in no way contingent on the results of the FS or the contents of this news release.

Giyani’s disclosure of mineral resource information is governed by NI 43-101 under the guidelines set out in the Canadian Institute of Mining, Metallurgy and Petroleum (the “CIM”) Standards on Mineral Resources and Mineral Reserves, adopted by the CIM Council, as may be amended from time to time by the CIM Code. There can be no assurance that those portions of mineral resources that are not mineral reserves will ultimately be converted into mineral reserves.
THE OPPORTUNITY: BUILDING A GLOBAL BATTERY METALS PLAYER

Demand for battery-grade manganese is set to soar 30-fold by 2036 with a significant supply/demand deficit anticipated.

China currently* controls over 94% of the high-purity manganese sulphate monohydrate (HPMSM) market.

No new ex-China sources of HPMSM have been successfully developed in recent years.

EV companies are seeking responsible supply chains to provide for a growing battery market.

The leadership team has a strong track record of project delivery across the mining industry.

K.Hill is one of only six non-Chinese projects in advanced development and is located in the mining-supportive jurisdiction of Botswana.

Giyani is developing a low-carbon operation which processes directly from captive ore.

Once developed, Giyani is predicted to be one of the largest producers of battery-grade manganese.

Developing a globally significant battery manganese project.

* Per CPM data for 2021 HPMSM production.
STRONG ASSET BASE IN PIVOTAL, PRO-MINING JURISDICTION

Projects

Giyani’s Kanye Basin prospects consist of eight prospecting licences, including three brownfield manganese oxide assets:

**K.Hill**: historic mine near the village of Kanye

**Otse**: 2 km from the A1 highway and 50 km from K.Hill

**Lobatse**: 1 km from the RSA border and 50 km from K.Hill

Ore from all three deposits could feed a central production facility

Excellent infrastructure: rail and road connections to five seaports shipping to the US, EU and Asia

## K.HILL PROJECT NOVEMBER 2022 FEASIBILITY STUDY HIGHLIGHTS

### Project Economics

<table>
<thead>
<tr>
<th>Metric</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>US$481M Post tax NPV8</td>
<td></td>
</tr>
<tr>
<td>28% Internal Rate of Return</td>
<td></td>
</tr>
<tr>
<td>US$281M Initial capex incl contingency of US$32M</td>
<td></td>
</tr>
<tr>
<td>3.6 years Payback from first production</td>
<td></td>
</tr>
</tbody>
</table>

### Life of Project Financial Highlights

<table>
<thead>
<tr>
<th>Metric</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>US$2,993M Revenue</td>
<td></td>
</tr>
<tr>
<td>US$1,369M Operating cost</td>
<td></td>
</tr>
<tr>
<td>US$1,624M EBITDA</td>
<td></td>
</tr>
<tr>
<td>US$1,093M Undiscounted post-tax cash flow</td>
<td></td>
</tr>
</tbody>
</table>

### Life of Project Operational Highlights

<table>
<thead>
<tr>
<th>Metric</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>808 kt HPMSM Production</td>
<td></td>
</tr>
<tr>
<td>2.0 Mt Probable Reserve</td>
<td></td>
</tr>
<tr>
<td>19% MnO Average ore grade</td>
<td></td>
</tr>
<tr>
<td>89% Process recovery</td>
<td></td>
</tr>
</tbody>
</table>
**UPSIDE PRICE FORECAST POTENTIAL**

<table>
<thead>
<tr>
<th>Year</th>
<th>FS LOP average ($/t)</th>
<th>L-T price ($/t)</th>
<th>Note: Price used = 50/50 aggregate of EU and N American pricing</th>
</tr>
</thead>
<tbody>
<tr>
<td>2025</td>
<td>3,705</td>
<td>3,918</td>
<td></td>
</tr>
<tr>
<td>2026</td>
<td>4,000</td>
<td>4,200</td>
<td></td>
</tr>
<tr>
<td>2027</td>
<td>4,300</td>
<td>4,500</td>
<td></td>
</tr>
<tr>
<td>2028</td>
<td>4,500</td>
<td>4,700</td>
<td></td>
</tr>
<tr>
<td>2029</td>
<td>4,700</td>
<td>4,900</td>
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</tr>
<tr>
<td>2030</td>
<td>4,900</td>
<td>5,100</td>
<td></td>
</tr>
<tr>
<td>2031</td>
<td>5,100</td>
<td>5,300</td>
<td></td>
</tr>
<tr>
<td>2032</td>
<td>5,300</td>
<td>5,500</td>
<td></td>
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<tr>
<td>2033</td>
<td>5,500</td>
<td>5,700</td>
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<tr>
<td>2034</td>
<td>5,700</td>
<td>5,900</td>
<td></td>
</tr>
<tr>
<td>2035</td>
<td>5,900</td>
<td>6,100</td>
<td></td>
</tr>
</tbody>
</table>

- **FS Price Forecast vs CPM Group**

- CPM projects demand for HPMSM in Li Batteries to grow by nearly 30 times between 2021 and 2036.
- FS model uses CPM HPMSM forecast adjusted to run a flat price from Year 6 of the production period.

### LOP

<table>
<thead>
<tr>
<th></th>
<th>FS Model</th>
<th>CPM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-tax</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- NPV8</td>
<td>US$M</td>
<td>603</td>
</tr>
<tr>
<td>- IRR</td>
<td>%</td>
<td>32.0%</td>
</tr>
<tr>
<td>Post-tax</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- NPV8</td>
<td>US$M</td>
<td>481</td>
</tr>
<tr>
<td>- IRR</td>
<td>%</td>
<td>28.3%</td>
</tr>
<tr>
<td>Post-tax NPV/t milled</td>
<td>US$/t</td>
<td>237</td>
</tr>
</tbody>
</table>
A FULLY-INTEGRATED BATTERY METALS OPERATION

- Operation to be fully-integrated from ore to final HPMSM product
- All operations to be located on site in Kanye, Botswana
- Plant will treat 200 kt of ROM ore per annum
- Direct access to multiple export terminals
- FS excludes 3.1 Mt of Inferred Resources in southerly extension
STRONG ENVIRONMENTAL AND SOCIAL CREDENTIALS

- K.Hill will comply with Botswana legislation and international standards
- Environmental and Social Impact Assessment currently ongoing: no red flags identified to date
- Life Cycle Assessment by Minviro estimated total Global Warming Potential of 3.2 kg CO\textsubscript{2} / kg HPMSM for Project

Planning and development
- Planning has focused mitigation hierarchy of **avoid** – **minimise** – **mitigate**

Renewable energy integration
- 4.5MWdc solar plant to reduce energy taken from national grid
- Electric mining fleet – when such vehicles available for operations

Dry stack tailings
- Independent specialists to perform review of the TMF with GISTM

Permitting
- ESIA submission in Q1 2023
- Mining licence submission to follow ESIA

Comparative GWP\textsuperscript{1} for HPMSM projects

<table>
<thead>
<tr>
<th></th>
<th>Kg CO\textsubscript{2} / kg HPMSM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Giyani</td>
<td>2</td>
</tr>
<tr>
<td>Euro Manganese</td>
<td>6</td>
</tr>
</tbody>
</table>

Source: Company data, Minviro
\textsuperscript{1} GWP: Global warming impact

Note: IFC: International Finance Corporation; GISTM: Global International Standards for Tailings Management
SOPHISTICATED PROCESSING FLOWSHEET SIGNIFICANTLY ADVANCED FROM PEA

Direct processing route to HPMSM production

- Hydrometallurgical process developed over more than a year of testwork (optimisation ongoing)
- No power-intensive calcining or electrorefining required
- No addition of selenium required
COMPETITIVE INITIAL CAPITAL COST WITH OPPORTUNITY FOR OPERATING COST OPTIMIZATION

Initial Construction Capital Requirement

- Mining
- Processing
- Infrastructure
- Offsite Infrastructure
- Indirect Costs
- Overheads
- Owners Costs
- Tailings
- Contingency
- Total Capital

Operating Cost Profile

US$672/t milled

- Energy 10%
- Processing reagent freight 26%
- Maintenance 12%
- Processing reagents 47%
- Other 5%

- Reagents are primary driver of operating costs (69% of total opex)
- Flowsheet optimisation and local sourcing of reagents can reduce opex
DEMONSTRATION PLANT TO DE-RISK PRODUCTION PROCESS

- Contract signed with Met63 for the construction of the demonstration plant in South Africa
- Replicating K.Hill’s proposed hydrometallurgical process, de-risking the commercial plant development and providing a platform for operational training
- Construction completed by mid-2023 and product shipments expected in H2 2023
- Key components under fabrication in South Africa

Up to 600kg/d HPMSM by H2 2023
FS PROJECT COMPLETION TIMELINE

1. Completion of metallurgical test work and confirmation of target high purity quality spec
2. Completion of feasibility study for K.Hill project
3. Regulatory review of Environmental and Social Impact Assessment (ESIA) and Mine Licensing
4. Commissioning of Demo Plant in South Africa to produce up to 600 kg/d HPMSM crystals
5. Start of commercial plant commissioning
6. First commercial production

Note: dates above are based on technical execution schedule under 100% financed basis and not adjusted for commercial and funding assumptions
MATERIAL UPSIDE IN K.HILL OREBODY

K.Hill Project Resource Growth

<table>
<thead>
<tr>
<th>Classification (Feb 2022)</th>
<th>Tonnage (Mt)</th>
<th>Grade MnO (%)</th>
<th>Contained MnO (kt)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicated Mineral Resources</td>
<td>2.1</td>
<td>19.3</td>
<td>410</td>
</tr>
<tr>
<td>Inferred Mineral Resources</td>
<td>3.1</td>
<td>16.9</td>
<td>530</td>
</tr>
</tbody>
</table>
OTSE PROSPECT
Significant near by upside potential

• High-grade supergene podiform manganese oxide mineralisation from surface

• Project lies 50km from K.Hill with direct access to highway for ore trucking

• Several intersections exceeded 60.0% MnO, including hole RCOT21_015 reporting 44.5% MnO over 27.5 metres

• Initial exploration completed in 2021 and definition of maiden resource underway

• Further exploration programme being prepared to further define the scale of the opportunity
INVESTMENT PROPOSITION

- Robust economic return profile
- Low capital intensity for what will be one of the largest HPMSM projects in the world
- Advantage of higher-grade MnO ore and conventional mining
- Pathway to becoming a low-carbon producer coupled with strong ESG credentials
- Significant geological upside and extended mine life under evaluation
- Optimization work opens opportunities to enhance value

Developing a globally significant producer of battery manganese for the EV industry
FOR MORE INFORMATION

Jonathan Henry  
Executive Chair

George Donne  
VP of Business Development

info@giyanimetals.com  
@GiyaniMetals
Giyani-metals
APPENDIX
# STRONG SHARE STRUCTURE AND DEBT-FREE

**Share Price**
- **Cash**
  - CAD0.25  
  - 52 week - CAD0.25 - 0.61

**Debt**
- **Zero**

**Shares in issue**
- **218M**

**Share Price**
- **Cash**
  - CAD0.25  
  - 52 week - CAD0.25 - 0.61

**Market Cap**
- **CAD55M**

**Debt**
- **Zero**

**Last fundraising**
- **CAD11.5M**
  - @ CAD0.44/share (03 DEC 21)

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**TSX: EMM | OTC: CATPF**

<table>
<thead>
<tr>
<th>Total</th>
<th>Exercise Price</th>
<th>Expiry</th>
</tr>
</thead>
<tbody>
<tr>
<td>Options</td>
<td>12,987,500</td>
<td>CAD0.15 - 0.53</td>
</tr>
<tr>
<td>Warrants</td>
<td>25,050,594</td>
<td>CAD0.10 - 0.60</td>
</tr>
<tr>
<td>RSUs</td>
<td>93,340</td>
<td>Nil</td>
</tr>
</tbody>
</table>

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**Major Shareholders**

<table>
<thead>
<tr>
<th>Shareholder</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>RAB Capital</td>
<td>9.1%</td>
</tr>
<tr>
<td>Directors and Management</td>
<td>3.0%</td>
</tr>
<tr>
<td>Primevest Capital</td>
<td>3.0%</td>
</tr>
<tr>
<td>MMCAP Asset Management</td>
<td>2.9%</td>
</tr>
<tr>
<td>APAC Resources</td>
<td>1.4%</td>
</tr>
<tr>
<td>Sentry Resource Opportunities</td>
<td>1.4%</td>
</tr>
<tr>
<td>Ausbil Investment Management</td>
<td>1.4%</td>
</tr>
<tr>
<td>Pathfinder, Charlestown, Ixios, Black Maple</td>
<td>&lt;1%</td>
</tr>
</tbody>
</table>

**Data as of 23 August 2022**
STRONG LEADERSHIP WITH TRACK RECORD OF SUCCESSFUL PROJECT DELIVERY

Senior Management

Jonathan Henry  
Executive Chair

Derk Hartman  
President & COO

Eugene Lee  
CFO

George Donne  
VP Business Development

Dirk Geerligs  
VP Project Development & Construction

Jacques du Toit  
VP Technical Services

Marion Thomas  
VP ESG

Luhann Theron  
Senior Geologist

Elisa Davis  
Country Manager

Stephanie Hart  
Lead Independent Director

Nicola Spooner  
Non-executive Director

John Petersen  
Non-executive Director

Michael Jones  
Non-executive Director

Thuso Dikgaka  
Non-executive Director, Chair of Menzi Battery Metals

Strong Project Experience

Development

Finance

Engineering
K. HILL OPERATING PROFILE ON 2MT PROBABLE RESERVE

Life of Project (LOP) Mining Profile

LOP Plant Operating Profile
ROBUST K.HILL PROJECT ECONOMICS

LOP Post-Tax Net Free Cash Flow

LOP Key P&L Results Profile

Note: Based on SRK techno-economic model on 100% equity basis
BUILDING STRONG STAKEHOLDER RELATIONS

Site visit with Verkor and the Honourable Dr Kwape (MP for Kanye South and Minister of Foreign Affairs) and other leaders.

Giyani supporting Hope Worldwide – Disability Event.

Giyani geologist Ilaki Tsabang.

Mining Indaba, Cape Town - Elisa Davis (Giyani Country Manager) and Thuso Dikgaka (Giyani Board member) with His Excellency President Mokgweetsi Masisi and the Honourable Lefoko Maxwell Moagi, Minister of Mineral Resources and Energy.
GIYANI CAN BE A GLOBAL HPMSM PRODUCER

Global HPMSM Production vs Demand (CPM Group)

Major Global HPMSM Producers by Initial Capacity (Current and Forecast)

Source: CPM Group data
Probable projects: publicly announced, post-PEA projects (EMN, E25, MMC, MNX)
Possible projects: pre-PEA/scoping study projects (S32, PLS, CMC, FRB)

Source: International Manganese Institute, CPM
Current or predicted projects over 25ktpa HPMSM capacity currently anticipated before 2030
HPMSM estimated to contribute approx. 1 – 2% of cathode cost

Inflation Reduction Act (IRA) allows 0% Chinese mined or processed content in EV batteries manufactured in US

For 60kWh NMC370 battery at using assumed US$5,000/t HPMSM:
- Manganese cost estimated at <$300
- IRA tax credit value up to $7,500
- Lithium-ion batteries therefore not sensitive to price of manganese

Notes: Prices used (per kilogram of battery grade material, metal contained):
- January 2019: lithium = $85, nickel = $18, manganese = $3.2, cobalt = $62
- May 2022: lithium = $386, nickel = $31, manganese = $3.5, cobalt = $84

Source: CPM Group, E Source
EX-C HINA PROJECTS IN ADVANCED DEVELOPMENT ARE VERY LIMITED

• By 2030, HPMSM demand is expected to reach 3.1Mt, but supply is forecast to only be capable of producing 1.6Mt.

• China currently controls c.94% of the global supply market.

• Currently, there are only three new projects at feasibility stage.

• Once operational, Giyani predicted to be one of the largest global producers of HPMSM by 2030.

1.5Mt
Of supply deficit is forecast by 2030.

c.10x
Demand increase expected by 2030.

Source: CPM Group
*CPM data for 2021 HPMSM production
Giyani’s product can be sold to a wide range of consumers who demand traceable, responsible raw materials

• Facility in Botswana to service both western and eastern markets

• Targeting multiple international cathode active material (CAM), cathode and cell producers and OEMs

**EARLY MOVER ADVANTAGE IN GROWING BATTERY MARKET**

<table>
<thead>
<tr>
<th>CAM / Cathode producers</th>
<th>Cell Producers</th>
<th>OEMs</th>
</tr>
</thead>
<tbody>
<tr>
<td>BASF</td>
<td>CATL</td>
<td>VOLVO</td>
</tr>
<tr>
<td>Umicore</td>
<td>Panasonic</td>
<td>TESLA</td>
</tr>
<tr>
<td>Sumitomo</td>
<td>Northvolt</td>
<td>Ford</td>
</tr>
<tr>
<td>Haldor Topsoe</td>
<td>SVOLT</td>
<td>Mazda</td>
</tr>
<tr>
<td>LG Chem</td>
<td>ACC Automotive Cells Co</td>
<td>Mercedes-Benz</td>
</tr>
<tr>
<td>Showa Denko</td>
<td>EcoPro</td>
<td>Renault Nissan Mitsubishi</td>
</tr>
<tr>
<td>SAMSUNG</td>
<td>SAMSUNG SDI</td>
<td></td>
</tr>
</tbody>
</table>
Mineral ores are mined and processed into battery-grade salts e.g. HPMSM, lithium hydroxide

These metal salts are combined into precursor materials
These materials are processed into battery components e.g. cathodes

Cathodes, anodes and other components combined into battery cell
Cells assembled into battery packs by battery companies

Completed battery packs inserted into EVs by car manufacturer in the assembly process

1. HPMSM from the demonstration plant are sent to battery or cathode active material manufacturers for quality testing
2. Battery companies will test product in cathode and then cell
3. OEMs will test cell performance and undertake sustainability checks on supply chain
Increasing numbers of original equipment manufacturers (OEMs) and battery companies are looking at manganese (Mn)-rich solutions to feed the mass market sector.

- Price and responsibility concerns are driving end-users away from cobalt (i.e. governance concerns over DRC production).
- Mn-rich formulations of Nickel-Manganese-Cobalt cathodes already in development (e.g. BASF’s NMC-370; Svolt’s NMx).
- Lithium-Nickel-Manganese Oxide (LNMO) chemistries could reduce cathode costs by 47% per kilowatt-hour relative to nickel-rich designs.

Source: CPM Group
1: Roskill analysts at VW’s ‘Power Day’ March 2022

Source: Umicore Capital Markets Day 2022
SIGNIFICANT PROGRESS TO DEVELOPMENT

Aug. 2020: Completed high purity manganese market analysis, price forecasting & route to market studies

Dec. 2020: Received approval for ESIA Scoping & Terms of Reference by DEA


Apr. 2021: Updated K.Hill PEA increased resources & project economics to NPV\textsuperscript{10} of CAD442M & IRR of 80%

Jun. 2021: Results of the initial metallurgical test work announced

Sept. 2021: New MRE of 1.6Mt in Indicated Category and 1.4Mt in Inferred

Dec. 2021: Completion of initial exploration drilling at Otse

Feb. 2022: New MRE of 2.1Mt in Indicated Category and 3.1Mt in Inferred

Aug. 2021: New discoveries at K.Hill (the B Horizon) and at K.Hill Extension

Mar. 2021: Completed K.Hill reserves infill drilling

Oct. 2021: Completion of initial exploration drilling at K.Hill

Mar. 202: Order of 1st crystallizer unit for Demo Plant

Apr. 2022: Handover of Demo Plant flowsheet

Jun. 2022: Order of 2nd crystallizer unit for Demo Plant

September 2022: LCA results

November 2022: Release of Feasibility Results with US$481 M Post tax NPV\textsuperscript{8} and 28% IRR

September 2022: Contract signed for construction of Demo Plant

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