

#### **MARATHON PALLADIUM – COPPER MINE**

## **CRITICAL MINERALS FOR FUTURE GENERATIONS**

June 2023 – General

## FORWARD-LOOKING INFORMATION

TSX:GENM OTCQB: GENMF

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"). Forward-looking statements reflect current expectations or beliefs regarding 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", "intends", "anticipates", "targets" or "believes", or variations of, or the negatives of, such words and phrases or state that certain actions, events or results "may", "could", "would", "should", "might" or "will" be taken, occur or be achieved, including statements relating to the Company's Feasibility Study Update and results therefrom including mineral resource and reserve estimates, the timing of permitting and construction, the availability of sufficient financing to commence construction and the timing of such financing, proposed mine production plans, projected mining and process recovery rates (including mining dilution), estimates related closure costs and requirements, metal price (including the effects of supply demand imbalances on the metals the Company intends to produce) and other economic assumptions (including currency exchange rates), projected capital and operating costs, and AISC, economic analysis estimates (including cash flow forecasts, NPVs and IRRs) and mine life.

Although the Company believes that the expectations expressed in such statements are based on reasonable assumptions, such statements are not guarantees of future performance and actual results or developments may differ materially from those in the statements. There are certain factors that could cause actual results to differ materially from those in the forward-looking information. These include commodity price volatility, continued availability of capital and financing, uncertainties involved in interpreting geological data, increases in costs, environmental compliance and changes in environmental legislation and regulation, the Company's relationships with First Nations communities, exploration successes, and general economic, market or business conditions, as well as those risk factors set out in the Company's annual information form, the Technical Report that the Company filed in connection with the Feasibility Study Update and in the continuous disclosure documents filed by the Company on SEDAR at www.sedar.com. Readers are cautioned that the foregoing list of factors is not exhaustive of the factors that may affect forward-looking statements. Accordingly, readers should not place undue reliance on forward-looking statements. The forward-looking statements in this presentation speak only as of the date of this presentation or as of the date or dates specified in such statements.

Forward-looking statements are based on a number of assumptions which may prove to be incorrect, including, but not limited to, assumptions relating to: the availability of financing for the Company's operations; operating and capital costs; results of operations; the mine development and production schedule and related costs; the supply and demand for, and the level and volatility of commodity prices; timing of the receipt of regulatory and governmental approvals for development projects and other operations; the accuracy of Mineral Reserve and Mineral Resource Estimates, production estimates and capital and operating cost estimates; and general business and economic conditions.

Investors are cautioned that any such statements are not guarantees of future performance and actual results or developments may differ materially from those projected in the forward-looking information. For more information on the Company, investors are encouraged to review the Company's public filings on SEDAR at www.sedar.com. The Company disclaims any intention or obligation to update or revise any forward-looking information, whether as a result of new information, future events or otherwise, other than as required by law.

# **INVESTMENT HIGHLIGHTS – WHY INVEST**

- ✓ Strong and Robust Economics in a Tier-1 Jurisdiction
- ✓ 2023 Feasibility Study Update greatly de-risks next phase of the Project
- ✓ A high-quality Project producing three Critical Minerals
- ✓ Governments of Canada and Ontario very supportive in advancing Critical
  Mineral projects → Environment Assessment approved
- Solid support from Biigtigong Nishnaabeg with signed Community Benefit Agreement
- Currently undervalued compared to Project NPV due to phase of Project
- ✓ Offtake term sheets finalized with Glencore & another European smelter for the copper concentrate
- ✓ The Right Project at the Right Time

## METALS FOR THE GREEN REVOLUTION!

TSX:GENM OTCQB: GENMF



**PALLADIUM** 166,000 oz

Palladium is used to scrub nitrous oxide from gasoline exhaust.

Nitrous oxide is 300X more potent than  $CO_2$  as a greenhouse gas. Annual palladium produced will supply ~ 735,000 cars. **COPPER** 41 million lbs

An electric car needs about 180 lbs of copper, more than four times that of a gasolinepowered vehicle. Annual copper produced will supply ~ 225,000 cars per year. **PLATINUM** 38,000 oz



Hydrogen Fuel Cells need 1-2 ounces of platinum per vehicle. More is needed in the manufacture of hydrogen fuel.

- PALLADIUM GREENER AND SAFER
- Autocatalysts and pollution controls use 86% of palladium supply: Required by law in most countries Chemical industry 6% Electrical applications use 5%
- Modern catalysts convert 98% of carbon monoxide and nitrous oxide
- Nitrous oxide is 300 times more potent than CO<sup>2</sup> as greenhouse gas
- Pd loads per vehicle increasing in China, Europe, India & Brazil to convert more gases\*
- Annual demand of 9.9 million+ ounces
- In 2022, 6.31M oz mined worldwide (Russia 36% and South Africa 41%), and 3.10M oz recovered from recycling (relatively flat over the last five years)\* resulting in deficit of 531K oz up from the slight deficit of 66K oz in 2021 and the 11<sup>th</sup> straight year of deficits
- Positive research for palladium in
  - EV batteries (Li-ion),
  - Hydrogen production (membranes)
  - Hydrogen storage (Pd nanoparticles "store hydrogen like a sponge")
  - EU expected to introduce legislation in 2027 to cut emissions in half from today



## **COPPER** CRITICAL TO DECARBONIZATION

TSX:GENM OTCQB: GENMF



• Electrification Alliance: https://electrification-alliance.eu/about/

# COPPER SUPPLY VS DEMAND – 2010 - 2040E

TSX:GENM OTCQB: GENMF

Primary copper demand scenarios versus mine supply potential



TSX:GENM OTCQB: GENMF

"We need eight new Kamoa-Kakula mines to supply the expected 9 million tonne copper supply gap by 2030."

COPPER

Robert Friedland (Ivanhoe Mine - Co-Chairman) "I would highlight copper as the most critical metal globally given the shortage in the market. We only had 3.5 days of copper stock equivalent at the end of last year."

Kostas Bintas (Trafigura – Co-Head of Metals and Minerals Trading) "We're already forecasting major deficits in copper to 2030."

> Robin Griffin (Wood Mackenzie – VP of Metals and Mining)

"There's a huge deficit coming in copper, and as much as people write about it, the price is not yet reflecting it."

> Gary Nagle (Glencore - CEO)

"Even if the price of copper were to double overnight it would still be years before we had significant incremental production coming

on."

Richard Adkerson (Freeport-McMoRan – CEO) "We do not have enough copper to ensure green-energy goals."

> Mark Bristow (Barrick - President and CEO)

## LOCATION



# CANADA'S NEXT CRITICAL MINERALS MINE



- Located on Trans-Canada Highway
- Served by CPR main rail line
- Property next to Marathon Airport
- Main Zone deposit 10 km from Town of Marathon (~3,000 pop.)
- New 230kV power line from Wawa to Thunder Bay crosses property
- Essentially carbon-free power
- Numerous towns, Indigenous communities nearby available for the core workforce

## LOW CARBON INTENSITY – WORLDWIDE

TSX:GENM OTCQB: GENMF



• Attractive premium global product



Notes: Copyright Skarn Associates Limited

The curves represent individual mining operations. The height of the stacked bars representing the CO<sup>2</sup> eq intensity and the width of the bar representing the relative Cu equivalence production. Cu equivalence calculations are from Skarn Associates Limited and based on 2020 metal prices. Scope 1 (emissions arising from on-site activities) and Scope 2 (emissions from purchased energy, in this case electrical power required for site operations being generated by grid power providers) represent direct on-site mining and processing CO<sup>2</sup> intensity. Other components and contributors for the estimation of the bar graphs are as described in the chart legends and are reflective of the emissions for the overall project value chain.

## 2023 FEASIBILITY STUDY<sup>1</sup> HIGHLIGHTS

TSX:GENM OTCQB: GENMF

After-Tax NPV <sub>6%</sub>	After-Tax IRR	Initial Capital	Payback Period
\$1.16 Billion	\$1.16 Billion 26%		<b>2.3 years</b> \$851M Cash Flow first 3-years
LOM <sup>2</sup> Payable	Average Annual PdEq & CuEq Payable	Average Annual Pd & Cu Payable	AISC <sup>2</sup>
PdEq 3.6M oz CuEq 1.78B lb	PdEq 283 koz CuEq 139 Mlb	166 koz Pd 41 Mlbs Cu 38 koz Pt	US\$813/PdEq oz

#### NOTES:

<sup>1</sup> Unless otherwise noted: Canadian \$, economic analysis includes cash flow impacts of the WPM Stream. Feasibility Study

Update prices assumptions – US\$1,800/oz Pd, US\$3.70/lb Cu, US\$1,000/oz Pt, US\$1,800/oz Au, and US\$22.50/oz Ag

<sup>2</sup> AISC and PdEq – See full text of the news release issued March 31, 2023 for an explanation of the calculation of this metric and "Non-IFRS Measures".

## **PRODUCTION - KEY METALS**

TSX:GENM OTCQB: GENMF



Production Plan optimizes NSR by bringing palladium production forward into first half of life of mine



Revenue Breakdown per Metal

Revenue breakdown is calculated without the impact of WPM Stream

TSX:GENM OTCQB: GENMF

## CASH FLOW (AFTER TAX)



## SENSITIVITIES

PALLADIUM PRICE (US\$/oz)	1,400	1,600	1,700	1,800	1,900	2,000	2,200
NPV <sub>6%</sub> (C\$ M)	696	930	1,047	1,164	1,282	1,400	1,634
Payback (years)	3.3	2.9	2.5	2.3	2.2	2.0	1.9
IRR (%)	18.5	22.3	24.0	25.8	27.5	29.1	32.3

COPPER PRICE (US\$/lb)	2.50	3.00	3.50	3.70	3.90	4.50	5.00
NPV <sub>6%</sub> (C\$ M)	836	972	1,109	1,164	1,219	1,386	1,522
Payback (years)	3.0	2.6	2.4	2.3	2.2	2.0	1.9
IRR (%)	21.1	23.1	25.0	25.8	26.5	28.7	30.4

		(	OPEX SENSITIVITY		
AFTER-TAX RESULTS	+30%	+15%	0%	-15%	-30%
NPV <sub>6%</sub> (C\$ M)	1,031	1,085	1,164	1,274	1,411
Payback (years)	2.7	2.5	2.3	2.1	2.0
IRR (%)	23.4	24.4	25.8	27.4	29.2

		C	CAPEX SENSITIVITY	,	
NPV <sub>6%</sub> (C\$ M)	932	1,048	1,164	1,281	1,397
Payback (years)	3.3	3.0	2.3	1.9	1.3
IRR (%)	18.4	21.6	25.8	31.6	40.1

TSX:GENM OTCQB: GENMF

## **TECHNICAL SUPPORT TEAMS - MARATHON PROJECT**

 WOOD
 Image: Services

 Image: Services
 Image: Services

 I





Northern Bioscience Ecological Consulting









# ADVANCING THE PROJECT – IMPROVEMENTS

## GENERATIONMINING

TSX:GENM OTCQB: GENMF



Process plant engineering 42% and procurement advancing to vendor drawings

Improved metallurgical recoveries with 2022 testing and optimization of flow sheet

Advancing on key permits

Production drill testing (penetration rates)

Geotech site investigations advanced at TSF, process plant and crusher locations

Water management designs well advanced for this stage of Project

Earthworks design advanced and tendered

## PROCESS PLANT DESIGN – OPTIMIZATIONS





			States States		
Mine		2023 FS			
Proven & Probable Reserves	I	ncreased tonnage	A CAE	North Pit	Ore shown
Strip-Ratio		Improved to 2.6:1			designs
Mining Production	Slight ind	crease to 115 ktpd		AL SILLE	
					AL IN
Increased ore tonnage with up Mineral Resources Estimate w addition of 18,896 m drilled fr to 2022 (10% of drilling databa	odated ith an om 2020 ase)	Crusher and Stockpile	Central Pi		
90% of Mineral Reserves are in Proven category	n the				Mine Rock Dump
Equipment selection largely fir commitments pending	nalized,		South Pit		

# **CROSS SECTION – NORTH PIT**

### GENERATIONMINING



# PERMITTING – TRACKING AS ANTICIPATED

## GENERATIONMINING

TSX:GENM OTCQB: GENMF



Environmental Assessment Approved by Federal and Provincial Ministers

Permitting advancing in 3 Phases Phase 1: Permits to allow for early works

- Closure Plan
- Species at Risk (overall benefit plan for Caribou and bats)
- Permit to cut trees

Approvals expected in Summer 2023

#### Phase 2: Permits to allow for construction

- Canadian Navigable Waters Act
- Various construction permits related to air, water and tailings construction

Approvals expected in Q3 2023 and into Q4 2023

#### Phase 3: Future Permits (not critical for Year -2 of construction)

• Schedule 2 related to water impacts

Approvals expected in Q1 2024

## MARATHON MINE FINANCING

- 2023 Feasibility Study Capex C\$1,112M, or C\$898M net of equipment lease and preproduction revenue
- Wheaton Precious to pay C\$240M for stream of 100% gold and 22% platinum production, C\$40M received to date
- Equipment leases C\$101M (on 90% of the initial equipment fleet)
- Negotiating debt package with banking syndicate for US\$400M (C\$540M), half from Export Development Corporation
- Ongoing discussions for balance with several government Critical Mineral programs, private equity funds

## **ADVANCING THE MARATHON PROJECT 2022-2025**

TSX:GENM OTCQB: GENMF

	PROGRESS ENGIN NATIONS' AGRE ENVIRONMENTAL DECIS	EERING, FIRST EMENTS and ASSESSMENT ION	PERMITS	ONSTRUCTION	COMMENCE PALLADIUM & COPPER PRODUCTION
TIMELINE (ESTIMATED)					
		2022	2023	2024	2025
Accommodations Camp Leased wit	h Option to Acquire	$\checkmark$			
Ball and SAG Mills – Deal to Acquire		$\checkmark$			
Biigtigong Nishnaabeg Community Benefits Agreement		✓			
Environmental Assessment Decisio	n	✓			
Permits (Construction)					
Detailed Engineering (~40% curren	tly)				
Mine Financing					
Construction					
Preproduction/Commissioning					

Note: Construction and production timing are subject to favorable results in permitting and financing the project.

## **CORPORATE** STRUCTURE

TSX:GENM OTCQB: GENMF

### **Capital Structure**

Shares Outstanding*	183.5M				
Options*		14.2M			
Fully Diluted Shares Out	197.7M				
Basic Market Capitalizat (Share price: C\$0.47 May 31, 2023 Close)	\$84.8M				
*As at May 31, 2023					
Analyst Coverage					
Adam Schatzker Research Capital Cor					
Pierre Vaillancourt	Haywood	l Securities			

#### **Key Shareholders**

Sibanye-Stillwater	18.2%
Eric Sprott	9.1%
Zebra Holdings (Lundin Family Trust)	3.7%
Osisko Mining	2.8%
<b>Officers &amp; Directors</b>	8.2%
RBC Global Asset Management, Inc.	0.9%
Sprott Asset Management	0.5%

Source: TSX Infosuite, Irwin

## LASSONDE CURVE - THE DISCOVERY LIFECYCLE

#### TSX:GENM OTCQB: GENMF



25

# DEVELOPER CONSENSUS EV / NPV BENCHMARKING

TSX:GENM OTCQB: GENMF



Source: Company filings, FactSet, street research Note: Medians exclude Generation.

## MANAGEMENT

## GENERATIONMINING

#### TSX:GENM OTCQB: GENMF

#### JAMIE LEVY President, CEO & Director

25 years in financing and management of Canadian mining companies. Was CEO of Pine Point Mining - acquired by Osisko Metals. Formerly Vice President of Pinetree Capital

#### BRIAN JENNINGS CPA, CA, B.Sc CFO

Extensive experience in financial management of resource companies, and formerly Vice-President Corporate Restructuring at Ernst and Young

#### ADAM SEGAL B. Comm, LLB General Counsel

Spent 12 years with Sherritt International in a series of ever more senior roles culminating in the role of VP, Corporate Development. Prior to that he practiced law at Borden Ladner Gervais LLP.

#### RUBEN WALLIN P.Eng VP Sustainability

Management experience in the areas of environment, permitting, Indigenous and community relations and government relations. Previously held positions - Placer Dome, De Beers Canada, Barrick, Osisko and Detour Gold. Formerly Vice President Environment and Sustainability for Detour Gold

#### DREW ANWYLL M.Eng, P.Eng COO

Formerly Senior VP, Technical Services, interim COO and VP, Operations - mine general manager at Detour Gold, also held senior operating positions at Barrick and Placer Dome

#### MAURO BASSOTTI P.Sc Hon, VP Geology

Formerly Senior Director Geology with Ma'aden. Previously held positions with Detour Gold, New Gold, Barrick and Placer Dome working in both open pit and underground operations

#### PAUL MURPHY Ing. VP Projects

Experienced civil engineer with 35 years in construction and engineering. Previously with G Mining Services, VP Projects at Centerra Gold and GM of Engineering and Construction at IAMGOLD

#### ANN WILKINSON VP Investor Relations

Developed investor relations strategy for multiple base and precious metals producers and developers including Gold Resource Corporation, TMAC Resources and Breakwater Resources

TSX:GENM

**OTCQB: GENMF** 

# DIRECTORS

#### KERRY KNOLL Chairman

Co-founded several successful mining companies over 35 years including Wheaton River, Thompson Creek and Glencairn Gold. Former editor of The Northern Miner Magazine

#### CASHEL MEAGHER P.Geo, P.Eng

President & COO of Capstone Mining. Previously Senior Vice President and Chief Operating Officer of Hudbay Minerals Inc.; led construction and startup of Constancia Mine; previously held several senior positions at Inco

#### STEPHEN REFORD BA.Sc, P.Eng

Geophysicist for 40 years. President of Paterson, Grant & Watson, an international geophysical consulting company. Managed and played technical roles, including World Bank, UN and CIDA-sponsored projects. Experience in Canada, India, Thailand, Malaysia, Africa, South America, and Saudi Arabia

#### JENNIFER WAGNER LL.B

Was Senior Vice-President, Corporate Affairs, Legal Counsel and Corporate Secretary at Kirkland Lake Gold Ltd. until merger with Agnico. She is a member of the Law Society of Upper Canada

#### JAMIE LEVY President & CEO

25 years in financing and management of Canadian mining companies. Was CEO of Pine Point Mining - acquired by Osisko Metals. Formerly Vice President of Pinetree Capital

#### PAUL MURPHY B.Comm, FCPA

Chartered Accountant, Chairman of Alamos Gold; was Chief Financial Officer of Guyana Goldfields during construction, production; former partner and head of Mining Group, Western Hemisphere, for PricewaterhouseCoopers

#### ROD THOMAS P.Geo

Geologist with 40 years experience in Canada and abroad. Former Exploration Manager BHP Minerals Eastern NA and General Manager of VM Canada (subsidiary of NEXA Res.) Former president of PDAC

#### PHILLIP C. WALFORD P.Geo, P.Eng

Geologist, Founder and CEO of Marathon Gold from 2009-2019, developing the Valentine gold project. Was CEO and a founder of Marathon PGM Corp. which sold Marathon palladium project to Stillwater in 2010

## **INVESTOR RELATIONS**

Ann Wilkinson Vice President, Investor Relations

Awilkinson@genmining.com

Phone: 416 640-2954

100 King St West, Suite 7010 Toronto, Ontario, Canada M5X 1B1



## RECOVERIES, TREATMENT AND REFINING CHARGES, AND PAYABILITIES

Metal	Recoveries	Treatment Charge	<b>Refining Charge</b>	Approximate Net Payable Rates (%)	Minimum Deductions
Palladium	88.0%	-	US \$24.50/oz	95.0%	2.6g/t
Copper	93.5%	US\$79/dmt	US \$ 0.079/lb	96.5%	1.1%
Gold	71.5%	-	US\$ 5.00/oz	75.0%	1 g/t
Platinum	75.3%	-	US \$24.50/oz	77.0%	2.6 g/t
Silver	66.4%	-	US\$ 0.50/oz	75.0%	30 g/t

## 2023 FS OVERVIEW

TSX:GENM OTCQB: GENMF

Economics		
After-Tax NPV (6%)	\$M	1,164
After-Tax IRR	%	25.8
Payback	Years	2.3

Operating and Capital Costs		
AISC (Pd.Eq) <sup>1</sup>	US\$/ oz PdEq	813
Initial Capital	\$M	1,112
Initial Capital (adjusted) <sup>2</sup>	\$M	898
Sustaining Capital	\$M	424
Closure Costs	\$M	72

<b>Operating Costs</b> (Average LOM)		
Mining <sup>3</sup>	\$/t mined	3.25
Processing	\$/t milled	8.70
G&A <sup>4</sup>	\$/t milled	2.67
Transport & Refining Charges	\$/t milled	4.13
Royalty	\$/t milled	0.09
Total Operating Cost	\$/t milled	27.04
LOM Average Operating Costs	US\$/oz PdEq	709

Key Price Assumptions		
Palladium	US\$/oz	1,800
Copper	US\$/Ib	3.70
Platinum	US\$/oz	1,000
Gold	US\$/oz	1,800
Silver	US\$/oz	22.50
Exchange Rate	C\$/US\$	1.35
Diesel	C\$/I	1.17

#### Slide Notes

<sup>1</sup> AISC is calculated without the impact of WPM Stream, PdEq calculation based on metal prices set out in the Key Assumptions at average LOM reserve grade

<sup>2</sup> includes pre-commercial production revenue and leased equipment, net of lease payments during construction

<sup>3</sup> Including capitalized maintenance parts, \$11.45/t milled

<sup>4</sup> Includes estimated costs associated with certain commitments associated with agreements with Indigenous communities

All figures are in Canadian dollars unless otherwise noted.

## **COMPARISON – FINANCIAL EVALUATION**

	Units	2023 FS	2021 FS
Pre-Tax Cash Flow (undiscounted)	\$M	3,387	3,004
Pre-Tax NPV <sub>6%</sub>	\$M	1,798	1,636
Pre-Tax IRR	%	31.9	38.6
Payback	Years	2.0	1.9
After-Tax Cash Flow (undiscounted)	\$M	2,285	2,060
After-Tax NPV <sub>6%</sub>	\$M	1,164	1,068
After-Tax IRR	%	25.8	29.7
Payback	Years	2.3	2.3

TSX:GENM OTCQB: GENMF

## COMPARISON – CAPITAL COSTS

	Units	2023 FS	2021 FS
Initial Capital	\$M	1,112	888
Less:			
Pre-commercial production revenue	\$M	(\$156)	(\$171)
Leased equipment, net of lease payments during construction	\$M	(\$58)	(\$53)
Initial Capital (adjusted)	\$M	898	665
LOM Sustaining Capital	\$M	424	423
Closure Costs	\$M	72	66

## COMPARISON – OPERATING COSTS

TSX:GENM OTCQB: GENMF

<b>Operating Costs (Average LOM)</b>	Units	2023 FS	2021 FS
Mining <sup>a</sup>	\$/t mined	3.25	2.53
Mining	\$/t milled	11.45	9.23
Processing	\$/t milled	8.70	9.08
G&A <sup>b</sup>	\$/t milled	2.67	2.48
Transport & Refining Charges	\$/t milled	4.13	2.80
Royalty	\$/t milled	0.09	0.04
Total Operating Cost	\$/t milled	27.04	23.63
LOM Average Operating Costs	US\$/oz PdEq	709	687
LOM Average AISC <sup>c</sup>	US\$/oz PdEq	813	809

Notes:

<sup>a</sup> Including capitalized maintenance parts.

<sup>b</sup> Includes estimated costs associated with certain commitments to and agreements with Indigenous communities.

<sup>c</sup> AISC is calculated without the impact of the Precious Metal Purchase Agreement with Wheaton Precious Metals Corp.

# **COMPARISON – PRODUCTION**

	Units	2023 FS	2021 FS
Mine Life (operating)	years	12.5	12.8
Process Plant Throughput (average)	tpd	27,700	25,200
Process Plant Throughput (average)	Mt/year	10.1	9.2
Mining Rate (average)	tpd	115,000	110,000
Mining Rate (average)	Mt/year	42	40
Total Ore Mined	Mt	127	118
Strip Ratio	waste:ore	2.63	2.80
Payable Metals			
Palladium	k oz	2,122	1,905
Copper	M lbs	517	467
Platinum	k oz	485	537
Gold	k oz	158	151
Silver	k oz	3,156	2,823
LOM Palladium Equivalent	PdEq koz	3,613	3,195

# COMPARISON – PRODUCTION (CONTINUED)

Average Annual Metal Production (payable)	Units	2023 FS	2021 FS
Palladium	k oz	166	149
Copper	M lbs	41	36
Platinum	k oz	38	41
Gold	k oz	12	12
Silver	k oz	248	220

**COST VARIANCE** 

10%

19%

Cost Escalation

## **COMPARISON – CHANGES AND VARIANCE**

Design Changes	2023 FS	
Mine		
Reserves	Increased ore tonnage	COST VA
Strip-Ratio	Reduced Strip Ratio	
Mining Production	Slight increase to 115 ktpd	
Plant		
Grinding Circuit	Larger SAG and Ball mill size	/1%
Re-Grind Mill	Reduced to 1 larger High Intensity Grinding (HIG) mill	
Pebble Crusher	Removed, not needed	
Flotation (roughers)	Open tank	Scope Change
Flotation (cleaning)	Staged Flotation Reactors	Increase Contingency
PGM-Scav Circuit	Removed, not needed	
Plant throughput	10.1 Mt/y (+10%)	

## **REVENUE DISTRIBUTION – KEY ASSUMPTIONS**

TSX:GENM OTCQB: GENMF



	2023 FS	2023 FS Revenue Distribution %	2021 FS
Palladium	<b>US\$1,800</b> /oz	59	US\$1,725/oz
Copper	<b>US\$3.70</b> /lb	29	US\$3.20/lb
Platinum	<b>US\$1,000</b> /oz	7	US\$1,000/oz
Gold	<b>US\$1,800</b> /oz	4	US\$1,400/oz
Silver	<b>US\$22.50</b> /oz	1	US\$20.00/oz
Exchange Rate	C\$1.35:US\$1	n/a	C\$1.28:US\$1
<b>Diesel Price</b>	\$1.17	n/a	\$0.77
Electricity	\$0.07	n/a	\$0.08

Metal price assumptions are based on the lesser of the three-year trailing average and the spot price on December 31, 2022, rounded to nearest interval.

PRICE ASSUMPTIONS	UNITS	ASSUMPTION	3 Year Trailing 31 Dec 2022	Spot Price 31 Dec 2022
Palladium	US\$/oz	\$1,800	\$2,221	\$1,789
Copper	US\$/lb	\$3.70	\$3.67	\$3.80
Platinum	US\$/oz	\$1,000	\$980	\$1,074
Gold	US\$/oz	\$1,800	\$1,791	\$1,825
Silver	US\$/oz	\$22.5	\$22.50	\$24.0
Exchange Rate	C\$/US\$	1.35	1.30	1.36
Diesel Fuel	\$/L	1.17		
Electricity	\$/kWhr	0.07		

## CAPITAL COSTS – HIGH LEVEL

Capital Area	Total Costs (M C\$)
Mining and Surface Equipment	117
Process Plant	345
Infrastructure	72
TSF, Water Management and Earthworks	95
General and Owner's Cost	31
Construction Indirects	197
Preproduction, Startup, Commissioning	158
Contingency	97
<b>Sub-Total</b> (before equipment financing and pre-production revenue)	1,112
Equipment Financing adjustment	(58)
Pre-Production Revenue	(156)
Total Project Capital	898

## SUSTAINING COSTS – HIGH LEVEL

	\$M
Mining	138
Tailings Storage	198
Infrastructure (off-site and on-site)	86
Processing Plant	3
Total	425

## PROCESS PLANT ENGINEERING – PROGRESSING



# EXPLORATION ACTIVITIES

PALL ADILIAN

and and the

PALL & DILLAN

2223

A Married

222

and and and

SALL ADILING

Pall A Dillar

Pall ADUM

SALL & DILING

and and and

and and and

PALLADUMA

SSS.

PALLADI

457

E.C.

9333 4

120

PALL ADUSAN

100 and 100

1011

## COLDWELL MINERALIZATION MODEL



## LOOKING FOR SOURCE OF HIGH GRADE

TSX:GENM OTCQB: GENMF

Sample K008054, 188.28g/t TPGM, 9.11% Cu, 0.60% Ni, 6.4% S



## MARATHON EXPLORATION



#### TSX:GENM OTCQB: GENMF

## 2021 DRILLING



Highlights of 2021 Chonolith drilling: Hole 43, 16m @ 2.11 g/t PdEq; Hole 44, 80m @ 1.08 g/t PdEq; Hole 45, 46m @ 1.78 g/t PdEq and 37m @ 1.4 g/t PdEq

#### TSX:GENM OTCQB: GENMF



SALLY DEPOSIT

# 2023 MARATHON MINERAL INVENTORY

TSX:GENM OTCQB: GENMF

Mineral Reserves (Marathon Deposit)											
Classification	Tonnes	Pd		Cu		Pt		Au		Ag	
	kt	g/t	koz	%	M Ib	g/t	koz	g/t	koz	g/t	koz
Proven	114,798	0.65	2,382	0.21	530	0.20	744	0.07	259	1.68	6,191
Probable	12,863	0.47	193	0.20	55	0.15	61	0.06	26	1.53	635
Total P&P	127,662	0.63	2,575	0.21	586	0.20	806	0.07	285	1.66	6,825

Mineral Resources (Total Site including Marathon Deposit + Geordie and Sally)											
Classification	Tonnes	Pd		Cu		Pt		Au		Ag	
	kt	g/t	koz	%	M lb	g/t	koz	g/t	koz	g/t	koz
Measured	158,682	0.60	3,077	0.20	712	0.19	995	0.07	359	1.75	8,939
Indicated	71,974	0.43	1,002	0.22	350	0.14	316	0.06	140	1.5	3,493
Meas. + Ind.	230,656	0.55	4,079	0.21	1,062	0.18	1,311	0.07	499	1.67	12,432
Inferred	28,580	0.39	356	0.23	143	0.1	89	0.04	42	1.45	1,329

#### Slide Notes

See Mineral Resource Notes on following slide

# **2023 MINERAL INVENTORY NOTES**

TSX:GENM OTCQB: GENMF

#### **Reserve Note:**

- a. Canadian Institute of Mining, Metallurgy and Petroleum (CIM) Definition Standards for Mineral Resources and Mineral Reserves (CIM (2014) definitions) were used for Mineral Reserve classification.
- b. Mineral Reserve Estimate completed by Alexandre Dorval, P.Eng., of GMS, an independent QP, as defined by NI 43-101.
- c. Mineral Reserves were estimated at a cut-off value \$16.90 NSR/t of ore.
- d. Mineral Reserves were estimated using the following long-term metal prices: Pd = US\$1,500/oz, Pt = US\$1,000/oz, Cu = US\$3.50/lb, Au = US\$1,600/oz and Ag = US\$20/oz, and an exchange rate of 1.30C\$ to 1 US\$. The pit designs are based on a pit shell selected at a revenue factor of 0.74.
- e. A minimum mining width of 5 m was used.
- f. Bulk density of ore is variable and averages 3.1 t/m<sup>3</sup>.
- g. The average strip ratio is 2.6:1.
- *h.* The average mining dilution factor is 9%.
- *i.* Numbers may not add due to rounding.

#### **Resource Notes:**

- a. Mineral Resources were estimated using the Canadian Institute of Mining, Metallurgy and Petroleum (CIM), CIM Standards on Mineral Resources and Reserves, Definitions (2014) and Best Practices Guidelines (2019) prepared by the CIM Standing Committee on Reserve Definitions and adopted by CIM Council.
- b. Mineral Resources that are not Mineral Reserves do not have demonstrated economic viability. The estimate of Mineral Resources may be materially affected by environmental, permitting, legal, marketing, or other relevant issues.
- c. The Inferred Mineral Resource in this estimate has a lower level of confidence than that applied to an Indicated Mineral Resource and must not be converted to a Mineral Reserve. It is reasonably expected that the majority of the Inferred Mineral Resource could be upgraded to an Indicated Mineral Resource with continued exploration.
- d. The Marathon Mineral Resource is reported within a constrained pit shell at a NSR cut-off value of \$15/t.
- e. Marathon NSR (C\$t) = (Cu % x 88.72) + (Ag g/t x 0.47) + (Au g/t x 44.69) + (Pd g/t x 58.63) + (Pt g/t x 28.54) 3.37.
- f. The Marathon Mineral Resource estimate was based on metal prices of US\$1,800/oz Pd, US\$3.50/lb Cu, US\$1,000/oz Pt, US\$1,600/oz Au and US\$20/oz Ag and an exchange rate of 1.30C\$ to 1 US\$.
- g. The Sally and Geordie Mineral Resources are reported within a constraining pit shell at a NSR cut-off value of \$13/t.
- h. Sally and Geordie NSR (C\$/t) = (Ag g/t x 0.48) + (Au g/t x 42.14) + (Cu % x 73.27) + (Pd g/t x 50.50) + (Pt g/t x 25.07) 2.62.
- *i.* The Sally and Geordie Mineral Resource estimates were based on metal prices of. US\$1,600/oz Pd, US\$3.00/lb Cu, US\$900/oz Pt, US\$1,500/oz Au and US\$18/oz Ag.
- *j.* Contained metal totals may differ due to rounding.