

INVESTOR PRESENTATION April 2021





ASX:BEM





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Some of the information contained in this presentation has been derived from previously released information to the ASX refer: 30/1/19 "Progressing to Full Feasibility", 17/1/20 "Fast Tracking the Maniry Graphite Project", 29/4/20 "Quarterly Activities Report – 31 March 2020", 31/7/20 "Quarterly Activities Report – 30 June 2020

### **COMPETENT PERSONS STATEMENT**

The information in this document that relates to Exploration Results, Exploration Targets and Mineral Resources is based on information compiled by Ms. Annick Manfrino, Principal of Sigma Blue and Manager Geology of Black Earth Minerals a Competent Person who is a member of the Australasian Institute of Mining and Metallurgy and a consultant to the Company. Ms. Manfrino has sufficient experience that is relevant to the style of mineralization and type of deposit under consideration and to the activity being undertaken to qualify as a Competent Person as defined in the 2012 Edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. Ms Manfrino consents to the inclusion of the information in this document in the form and context in which it appears.

#### **CAUTIONARY STATEMENT**

The Exploration Targets reported herein are not JORC compliant Mineral Resources. The potential quantity and grade of the Exploration Targets are conceptual in nature, there has been insufficient exploration to determine a Mineral Resource and there is no certainty that further exploration work will result in the determination of a Mineral Resource.



### I. EXECUTIVE SUMMARY

# **INVESTMENT HIGHLIGHTS**

#### GLOBALLY SIGNIFICANT GRAPHITE RESOURCE IN MADAGASCAR

- Madagascar has a large and established Graphite industry
- BlackEarth's flagship Maniry Project has an initial high grade Graphite Mineral Resource of 20.2Mt
- ▶ Near term exploration target at Maniry of +260 380Mt at 6-8% TGC<sup>1</sup>

#### **EXCELLENT GRAPHITE MARKET CONDITIONS**

- ▶ Rising EV demand combined with growing ESG thematic provide strong tailwinds
- ▶ Recent declines in Graphite flake supply has seen prices beginning to rise
- Basket of selected ASX graphite stocks up +200% YTD

#### NEAR TERM AND RAPID PROJECT DEVELOPMENT

- Board and management team have long term experience successfully delivering resource projects
- Scoping Study highlighted initial 10+ year mine life, pre-tax IRR 42%, and 30ktpa increasing to 60ktpa production with further upside from near term exploration and test work<sup>2</sup>
- ▶ Fit for purpose low capex start-up of only US\$41m
- Bankable Feasibility Study (BFS) underway with construction expected to begin in CY22

#### VERTICAL INTEGRATION WILL ADD SIGNIFICANT VALUE

 Significant product partners in Urbix, LuxCarbon and RHI Magnesita to accelerate downstream processing development

#### DONNELLY RIVER Ni-Cu-PGE PROJECT PROVIDES FURTHER UPSIDE

- Strategically centrally located between Chalice and Venture Minerals' South West Project Thor and Odin Prospects
- ▶ Systematic modern exploration underway expected to provide strong newsflow over coming

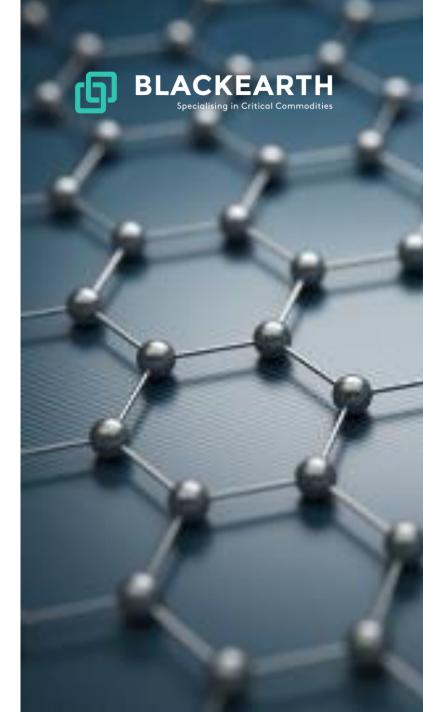
1. Refer to Explorption Titles Cautionary Statement on slide 2

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Refer Scoping Study ASX Announcement dated 30 January 2019



# **CORPORATE SNAPSHOT**



#### SHARE PRICE (LTM)

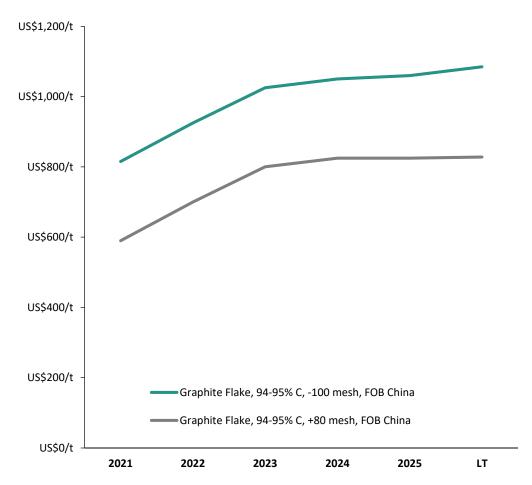
#### Share Price Volum \$0.25 3001 250 \$0.20 200 \$0.15 150 \$0.10 100 \$0.05 50M \$0.00 u ⊔ Sep-20 Mar-20 Jun-20 Dec-20 Mar-21

#### **CAPITAL STRUCTURE**

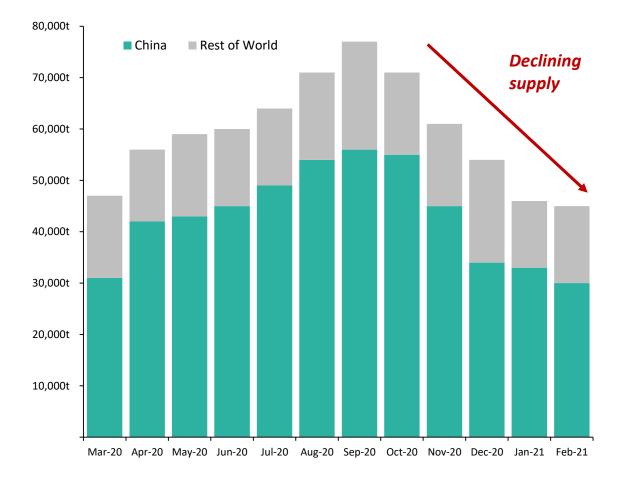
	Fully Paid Ordin	ary Shares	170m 9.9m			
:	Partly Paid Shai unpaid)	es <i>(paid to \$0.0001/sh, \$0.0599</i>				
	Share Price (7 A	oril 2021)	\$0.155			
	Market Cap (und	liluted)	\$26.4m			
	Cash (31 March 2	021) - est	\$2.50m			
	Enterprise Value	e (undiluted)	\$23.9m			
	BOARD OF D	<b>IRECTORS &amp; MANAGEMENT</b>				
	<b>George Bauk</b> Non-Executive Chairman	<ul> <li>experience as a listed resources company of Has held global operational and corporate Western Metals, and most recently was M</li> <li>Strong background in strategic manageme finance and capital/debt raising, and exper particular industrial minerals</li> </ul>	roles with WMC Resources and D of Northern Minerals nt, business planning, building teams,			
	<b>Tom Revy</b> Managing Director	<ul> <li>Qualified metallurgist with extensive experiences</li> <li>More than 30 years' experience within the</li> <li>Held senior operational and corporate pos WorleyParsons, Ferrum Crescent and Emp</li> </ul>	resources industry itions at GRD Minproc,			
	<b>David Round</b> Finance Director	<ul> <li>Extensive M&amp;A, Business Development and</li> <li>Was recently CFO and Head of Sales of an a company with mine in Madagascar</li> </ul>				

## **POSITIVE MARKET FUNDAMENTALS**

#### **UBS GRAPHITE PRICE FORECAST**

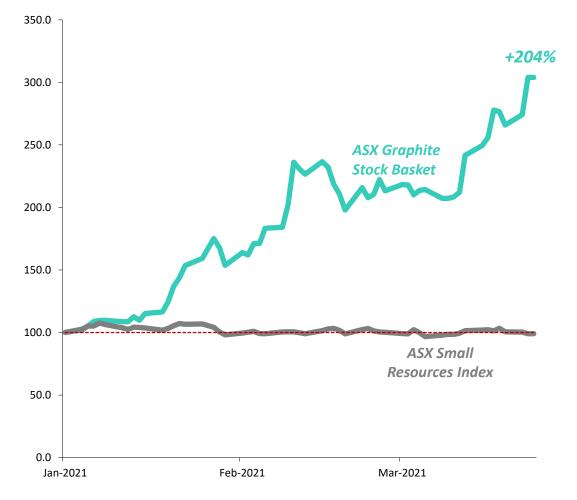


#### FLAKE GRAPHITE SUPPLY



## **POSITIVE GRAPHITE MARKET SENTIMENT**

#### **GRAPHITE EQUITY PERFORMANCE, REBASED (YTD)**



#### **BOUYANT OUTLOOK AND INDICATORS**

"The commodities market is not in a so-called supercycle, rather it is at the start of an unprecedented and revolutionary cycle driven by the rise of green energy and electrification of "everything from a bus, to a skateboard and a Vespa"

Robert Friedland (Feb 2021)

Canadian listed NextSource Materials completes US\$29.5M financing of its Molo Graphite Project located 50km north of BlackEarth's Maniry Project and 5km south of BlackEarth's lanapera Graphite Project

TSX:NEXT Release, 8 Feb 2021

"Alongside demand from energy storage applications, the battery industry is due to become the largest sector of demand for the graphite supply chain — the sector is seen aggressively increasing to around 15 times today's demand by 2030."

Investing News (Jan 2021)

"ESG issues are becoming more incorporated in the graphite supply chain as producers outside China look to develop environmentally friendly purification methods and product lines in increasingly integrated facilities, encompassing more steps of the value chain."

> George Miller, Benchmark Minerals (Jan 2021)

Basket of ASX graphite companies included: BEM, BKT, BSM, EGR, MNS, RNU, SYR, TLG, TON, WKT



### **II. MADAGASCAR AND THE MANIRY PROJECT**

# **MADAGASCAR GEOPOLITICS**



#### MADAGASCAR KEY POINTS

- +100 years graphite production history
- Largest supplier of graphite into China
- Second largest supplier of graphite into India
- Top 5 supplier of graphite into the USA

#### INVESTMENT RISK INDEX FOR GRAPHITE PRODUCING COUNTRIES<sup>1</sup>

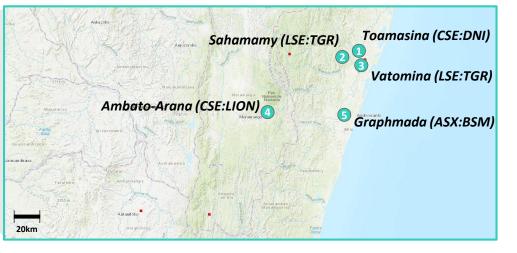


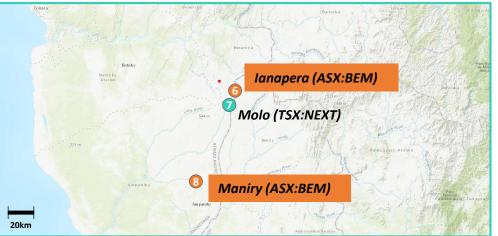
## **MADAGASCAR GRAPHITE**

**BLACKEARTH** Specialising in Critical Commodities

#### Significant in-country graphite mines and a long term producer and exporter







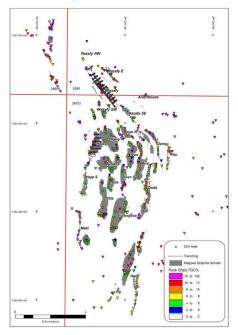
#### Toamasina – DNI Metals (CSE:DNI) Mineral Resource 4.0Mt grading 5% TGC ▶ Historic producing graphite property Sahamamy – Tirupati Graphite PLC (LSE:TGR) Mineral Resource 7.1Mt grading 4.2% TGC Currently producing 3,000 tonnes per annum Vatomina – Tirupati Graphite PLC (LSE:TGR) Mineral Resource 18.4Mt grading 4.6% TGC On track to be commissioned in June 2021 to produce 9,000tpa Ambato-Arana (CSE:LION) Historic mines with free digging graphite production beginning in 1910 Graphmada – Bass Metals (ASX:BSM) Mineral Resource 20.2Mt grading 4.0% TGC 5 Produced 1,836 wmt of graphite concentrate in FY20 ▶ Currently in care & maintenance Ianapera – BlackEarth Minerals (ASX:BEM) 6 Exploration Target: 20 – 34Mt at 10-20% TGC Molo – NextSource Materials Inc (TSX:NEXT) Ore Reserves 22.4Mt grading 7.02% TGC Financing package for US\$29.5m received in February 2021 to construct the Molo mine imminently Production to be 17,000 tonnes pa for first 2 years Maniry – BlackEarth Minerals (ASX:BEM) Mineral Resource 20.2Mt grading 6.51% TGC 8

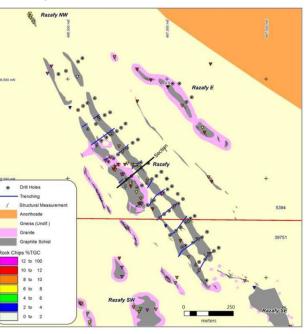
Exploration Target: 260 – 380Mt at 6-8% TGC

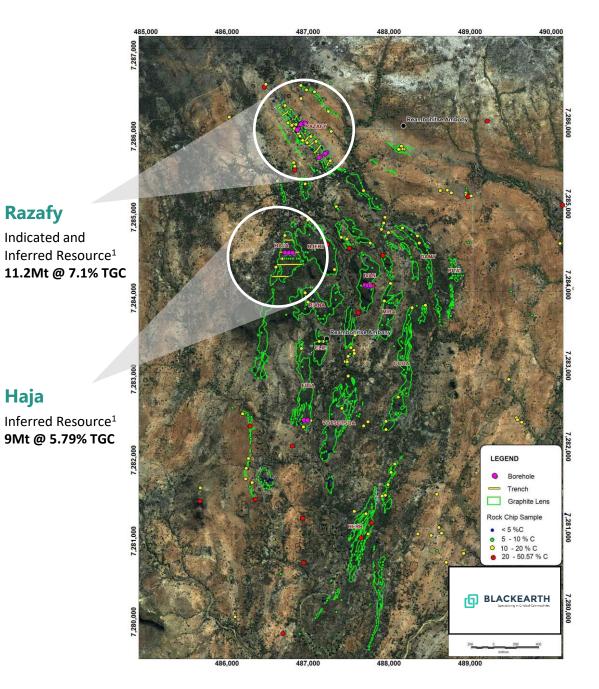
## MANIRY AREA

#### SIGNIFICANT EXPANSION POTENTIAL

- Project Area (Razafy); >40 yrs mine life
- Granted 40-year Mining Lease over the Razafy Resource
- Maniry tenements stretch over 20km<sup>2</sup>
- 35 large outcropping graphitic areas cover the Maniry tenements
- Only ~10% has been extensively explored







## **MANIRY HIGHLIGHTS**



 Flagship Maniry graphite project in Southern Madagascar fasttracked to the BFS Stage

#### SCOPING STUDY OUTCOMES<sup>1</sup>

Project Life	10+ Years
NPV <sub>10</sub> (pre-tax)	US\$103m
IRR (pre-tax)	42%
Project Capex Stage 1	US\$41m (500ktpa ore)
Project Capex Stage 2	US\$29m (1Mtpa ore)
Annual Graphite Production	Av 30ktpa (Stage 1 – years 1-3) Av 60ktpa (Stage 2 – years 4+)
Total LOM EBITDA	US\$209.7m
Operating Cost FOB (Port of Ehoala)	US\$593/t
Payback Period (Stage 1)	2.7 years

#### MANIRY PROJECT MINERAL RESOURCES<sup>2</sup>

Classification	Tonnage (Mt)	Total Graphitic Carbon (%TGC)	Contained (kt)		
Indicated	8.0	7.20%	577.6		
Inferred	12.2	6.05%	738.7		
TOTAL	20.2	6.51%	1,316.3		

#### **ADDITIONAL EXPLORATION TARGETS<sup>3</sup>**

- 1 N
  - Maniry Project : 260 380Mt at 6-8% TGC
- lanapera Project: 20 34Mt at 10-20% TGC
- Significant upside potential the focus of current BFS activities (grade, optimising flake size distribution, recovery, resource size, power costs etc)
  - e.g. an increase in feed grade from 6.3% to 7.3%TGC results in a project NPV of US\$152M and an IRR of 55%

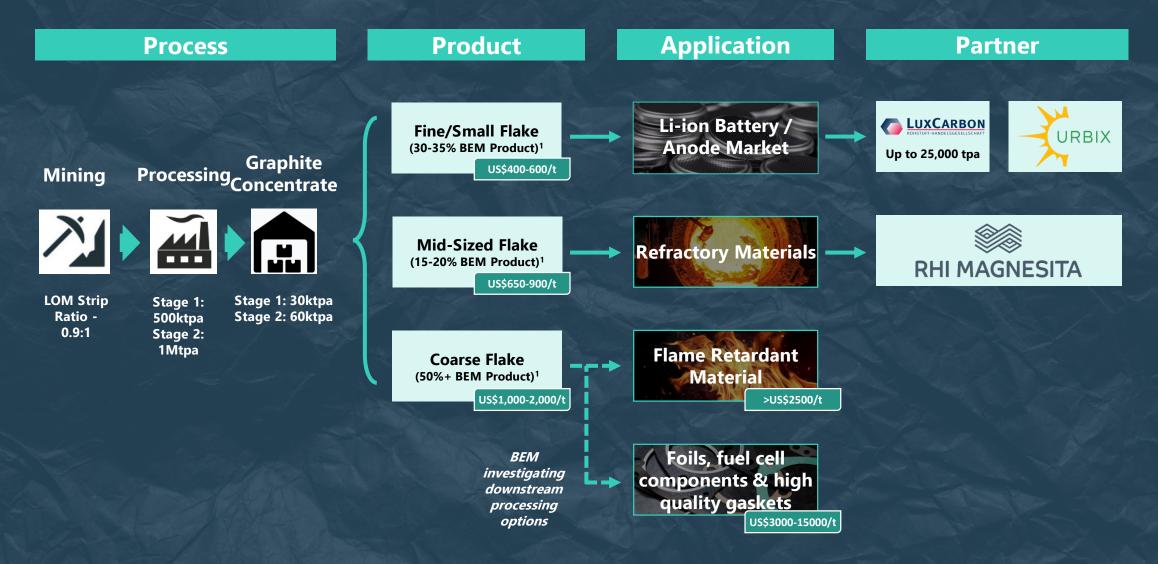
2. Reported in accordance with the 2012 Australasian code for reporting of exploration results, Mineral Resources and Ore Reserves ('the JORC Code 2012"). See ASX Announcements dated 14 August 2018 and 27 December 2018

3. Cautionary Statement: the Exploration Targets reported herein are not JORC compliant Mineral Resources The potential quantity and grade of the Exploration Targets are conceptual in nature, there has been insufficient exploration to determine a Mineral Resource and there is no certainty that further exploration work will result in the determination of a Mineral Resource. See ASX announcement date 14 August 2018

<sup>1.</sup> Refer ASX Announcement dated 30 January 2019

### **MANIRY GRAPHITE PROJECT**

BLACKEARTH Specialising in Critical Commodities



### **PRODUCT PARTNERS**



		2 RHI MAGNESITA	3 <b>LUXCARBON</b> ROHSTOFF-HANDELSGESELLSCHAFT
Nature of agreement	MOU to fastrack downstream production	Binding Offtake MOU	<i>Graphite Supply and Marketing Agreement</i>
About Partner	<ul> <li>US-based, premier provider of refined graphite powders globally</li> <li>Proprietary technology for purifying graphite in an efficient &amp; green way</li> <li>Building the largest natural graphite purification facilities in North America</li> </ul>	<ul> <li>World's largest refractory group</li> <li>£1.8b market capitalisation</li> </ul>	<ul> <li>One of Germany's major suppliers of graphite and carbon products to top tier suppliers of Volkswagen, Mercedes, Ford and chemical corporations</li> </ul>
Details of arrangement	<ul> <li>BEM will source high grade graphite concentrate to supply Urbix's downstream processing facility in USA</li> <li>Proposed JV including potential development of a facility in Madagascar or Western Australia producing purified graphite</li> </ul>	<ul> <li>BEM to produce "tailor-made" concentrate samples</li> </ul>	<ul> <li>BEM will sell up to 25,000 tpa of downstream products from its operations into the European market</li> <li>Agreement assists Urbix in completing plant development</li> </ul>
Relevant spec / product use	<b>Li-ion batteries</b> (fine/small flake)	<b>Refractory products</b> (mid-sized flake)	<b>Li-ion batteries</b> (fine/small flake)

## NEWSFLOW CATALYSTS NEXT 3-4 MONTHS





**Finalise detailed arrangements with Urbix Inc** 



Maniry pilot plant update



4

Downstream value add product development works (coarse flake)



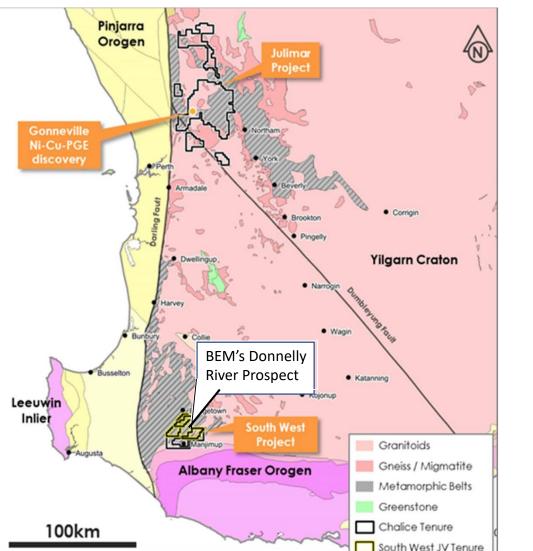


**Continue offtake arrangements / discussions** 



### **III. DONNELLY RIVER PROSPECT**

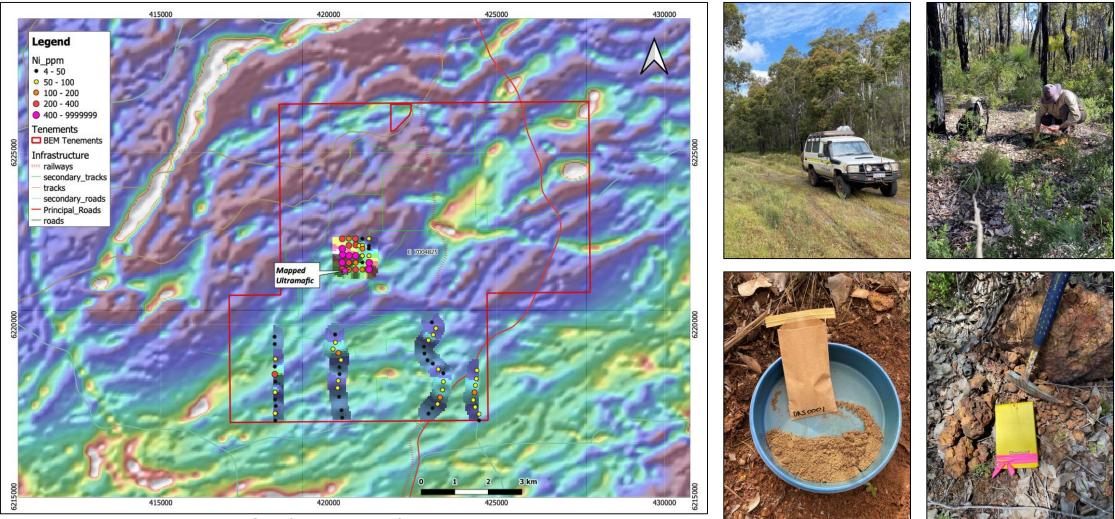
# **DONNELLY RIVER PROSPECT**



- BLACKEARTH Specialising in Critical Commodities
- The Donnelly River Prospect is located approx.
   240km south of Perth, Western Australia
- BEM's prospects are situated immediately adjoining the Thor and Odin Ni-Cu-PGE prospects (JV: Chalice Gold Mines "CHN" and Venture Minerals "VMS") – "South West Project"
- A drill program at CHN/VMS JV's Thor prospect intersected massive sulphide averaging 0.5%Cu with 0.05% Ni, 0.04% Co and anomalous Au & Pd<sup>1</sup>
- Drilling at CHN/VMS JV's Odin prospect intersected Ni and Cu sulphides within a highly prospective mafic-ultramafic unit that extends over a 10km strike<sup>1</sup>

### **Ni-Cu-PGE POTENTIAL**





Summary map of geochemistry over airborne magnetic image

## DONNELLY RIVER EXPLORATION PROGRAM



Item	Status
Open file Airborne magnetic data processing and interpretation	Complete
Geological logging of all relevant GSWA Core Library drill holes	Complete
Sampling along public road and rail easements – LAG and rock chip sampling	Complete
Following negotiated access to all of the project area undertake grid based LAG sampling program	Planning in progress
Detailed airborne magnetic and electromagnetic data surveys	In progress
Landowner access agreements	In progress
Systematic geochemical sampling	In progress
Ground based detailed gravity survey	In progress
Ground geophysical surveys and drilling on specific (identified) targets	Planned to commence Apr/May 21

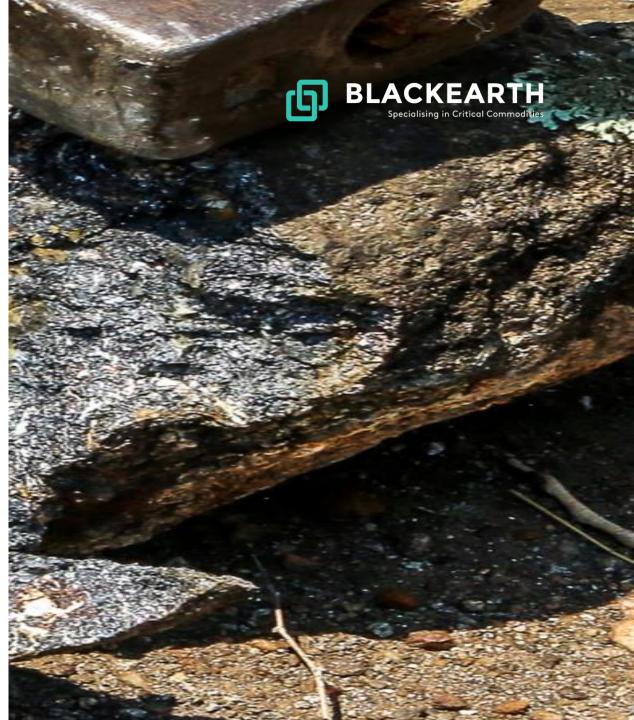


### IV. SUMMARY

## **MANIRY PROJECT**

### Why Maniry Project is Unique?

1. Undeveloped graphite projects globally	271
2. With a Mineral Resource	53
3. With a recent scoping study, PFS or DFS	27
4. With a mine life 10+ years	23
5. With annual production +50kt	14
6. With pre-tax IRR >40%	8
7. With initial capex less than US\$50m	4
8. With downstream partnerships in place	1 Asset: Maniry



# **PROJECT DEVELOPMENT**



2021 Milestones	APR	MAY	JUN	JUL	AUG	SEP	ОСТ	NOV	DEC
Stage 2 Pilot Program									
BFS with Improved Economics									
Offtake Arrangements									
Statutory Permitting									
Project Financing									



**Tom Revy** Managing Director 677 Murray St West Perth, WA, Australia <u>tom.revy@blackearthminerals.com.au</u> Phone: + 61 (0) 411 475 376





### APPENDIX 1 GRAPHITE BENCHMARKING



Maniry: low capex, high returns, attractive flake size distribution

Company		BlackEarth	Triton	Metals Australia	Bass Metals	Ecograf	Battery I	Minerals	Volt	Walkabout	Black Rock Mining	Renascor	Magnis
Project		Maniry	Ancuabe	Lac Rainy	Graphmada	Epanko	Balama Central	Montepuez	Bunyu	Lindi Jumbo	Mahenge	Siviour	Nachu
Location		Madagascar	Mozambique	Canada	Madagascar	Tanzania	Mozambique	Mozambique	Tanzania	Tanzania	Tanzania	South Australia	Tanzania
Stage		Scoping	DFS	Scoping	C&M, Studies	BFS	DFS	DFS	FS	DFS	DFS	DFS	BFS
Resource	– Ore (Mt)	20.2	46.1	13.3	20.2	30.7	32.9	119.6	461	41.8	211.9	87.4	174.1
Resource – Grade (% TGC)		6.51%	6.61%	11.49%	4.01%	9.92%	10.24%	8.09%	4.93%	10.75%	7.85%	7.49%	5.40%
Resource – Cont. Graphite (kt)		1,316	3,040	1,528	814	3,050	3,357	9,430	22,744	4,507	16,500	6,600	9401.4
Initial Cap	Initial Capex (US\$m)		99.4	189.8	n.a.	88.9	69.4	39.5	31.8	27.8	116.0	142.0	269.0
Annual Pr	oduction (ktpa)	60.0	60.0	96.0	20.0	60.0	58.0	50.0	23.7	40.0	340.0	144.0	240.0
Mine Life	(yrs)	10+	27	14	n.a.	18	35	50	7	24	26	40	15
NPV (pre-	tax) (US\$m)	103.0	298.0	123.0	n.a.	211.0	Not reported	Not reported	18.6	335.0	1,160.0	499.0	1,690.0
IRR (pre-t	ax) (US\$m)	42%	37%	19%	n.a.	39%	55%	36%	21%	142%	45%	33%	98.0%
hg	Extra Large (>300µ)	20.1%	34.5%	5.7%	32.0%	20.4%	21.6%	11.0%	12.0%	49.3%	23.0%	3.5%	41.0%
Flake Size Distribution Price: Low ←→High	Large (180-300µ)	29.8%	21.0%	14.3%	29.0%	31.2%	6.9%	20.7%	27.0%	25.0%	36.0%	17.2%	25.0%
	Medium (150-180µ)	9.1%	7.3%	8.0%	10.0%	13.1%	22.1%	11.2%	15.0%	12.9%	9.0%	6.9%	10.0%
Pric	Fine (0-180µ)	41.0%	37.3%	72.0%	29.0%	35.3%	49.4%	57.1%	46.0%	12.9%	32.0%	72.4%	24.0%

### APPENDIX 2 BENCHMARKING DATA SOURCES



Company	BlackEarth	Triton	Metals Australia	Bass Metals	Ecograf	Battery Minerals		Volt	Walkabout	Black Rock Mining	Renascor	Magnis
Project	Maniry	Ancuabe	Lac Rainy	Graphmada	Epanko	Balama Central	Montepuez	Bunyu	Lindi Jumbo	Mahenge	Siviour	Nachu
ASX Code	BEM	TON	MLS	BSM	EGR	BAT	BAT	VRC	WKT	ВКТ	RNU	MNS
Study ASX Announcement Date	30-Jan-19	15-Dec-17	03-Feb-21	n.a.	21-Jun-17	12-Dec-18	15-Feb-17, updated 04-Dec-18	31-Jul-18	07-Mar-19	25-Jul-19	01-Jul-20	31-Mar-16
Mineral Resource ASX Announcement Date	14-Aug-18 and 27-Dec-18	15-Dec-17	13-Jun-20	16-Mar-21	31-Mar-17	29-Mar-18	18-Oct-18	15-Dec-16	28-Feb-19	08-Aug-17	21-Jul-21	01-Feb-16

### APPENDIX 3 MANIRY GRAPHITE SPECS



Graphite from BlackEarth's Maniry project meets the specifications required for applications in the expandables, refractory and lithium-ion battery industries.



- NGS (Germany) achieved results of 400 cm<sup>3</sup>/g which exceeded the industry benchmark rate of 250 cm<sup>3</sup>/g. (Refer ASX: BEM Announcement 13/6/19)
- Positive test results and quality approval from Yichang Xincheng Graphite – the largest expandable graphite producer in the world.
- Following successful testing, BlackEarth entered binding MOU with the world's largest refractory group, RHI Magnesita ("RHIM"), the leading global supplier of high-grade refractory products, systems and solutions, and a large consumer of natural flake graphite for various refractory products and materials.



- In February 2021, BlackEarth signed an MOU with Urbix, Inc – a US based Company leading the development of EV related graphite products.
- Spherical graphite from Maniry meets all specifications required by lithiumion anode material manufacturers.