



# **BULKING UP**

Focused on the fastest path to production  
for Iron Ore and Bauxite



Investor Presentation

October 2024

ASX:AMD

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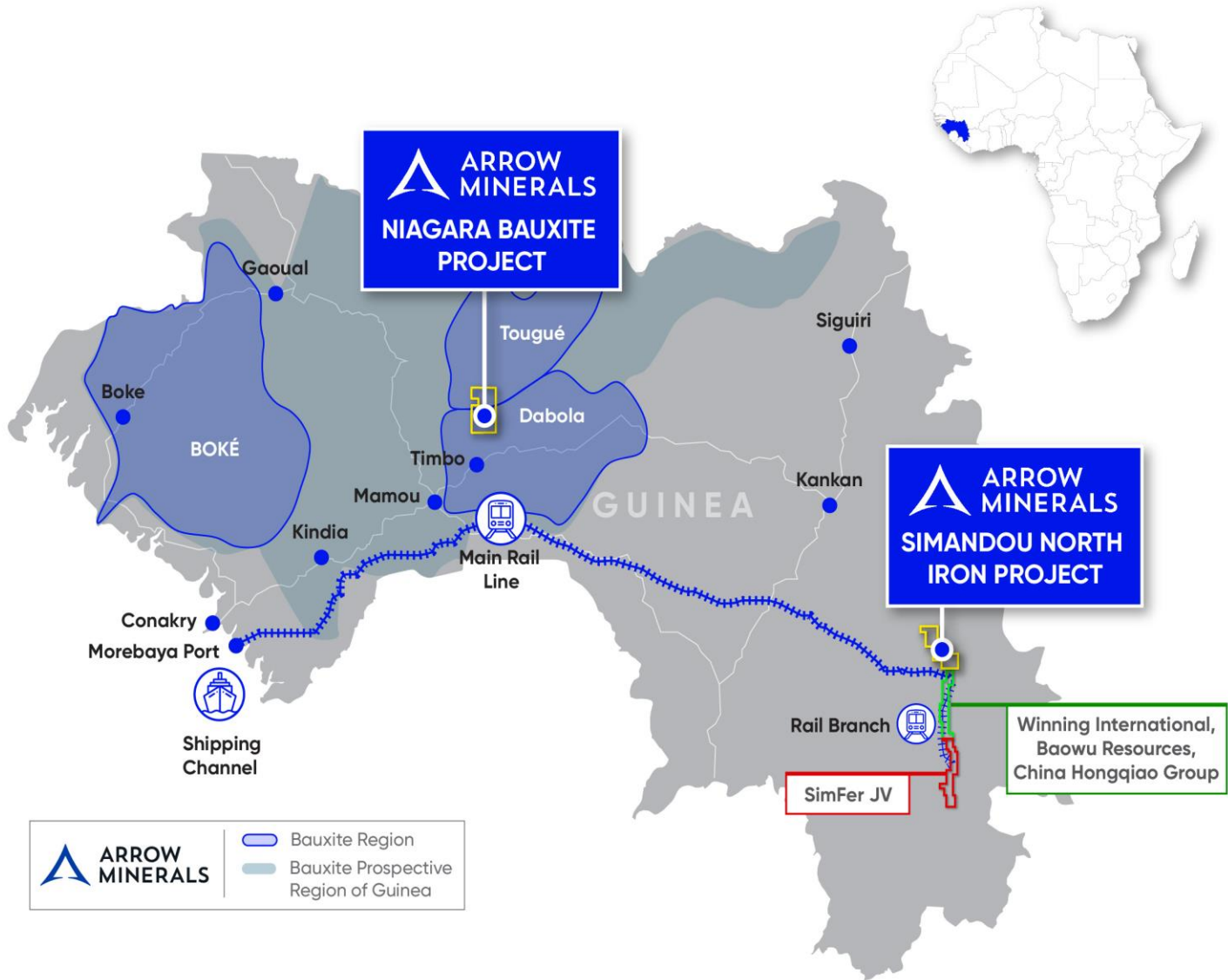
The exploration targets or conceptual exploration targets in this presentation or expressed during the course of this presentation are subject to completion of the necessary feasibility studies, permitting and execution of all necessary infrastructure agreements. In relation to any statements pertaining to future exploration targets or conceptual exploration targets, the nature of the exploration target means that the potential quantity and grade is conceptual in nature, that there has been insufficient exploration to define a Mineral Resource and that it is uncertain if further exploration will result in the determination of a Mineral Resource.

The information in this presentation relating to the exploration target for the Niagara Bauxite Project is subject to the Company exercising the option to acquire the project pursuant to the agreement announced on 1 August 2024 (see ASX Announcement dated 1 August 2024 entitled "Arrow Expands Bulks Presence with Major Bauxite Transaction" for further details).

This presentation and information, opinions or conclusions expressed in the course of this presentation should be read in conjunction with Arrow's other periodic and continuous disclosure announcements lodged with the ASX, which are available on the Arrow website.

All material assumptions and technical parameters underpinning the Company's drilling results referred to in this announcement continue to apply and have not materially changed. The Company confirms that the form and context in which the Competent Person's findings are presented have not been materially modified from the original market announcements.





- IRON ORE
- BAUXITE
- PORT
- RAIL
- TRANSFORMATION
- VALUE



# ARROW STRATEGY – “START SMALL, GET CASHFLOW, GROW”

## △ **Rapid and targeted exploration**

- △ Explore as much of the project as quickly as possible to prioritise & right size the targets that have the best potential to deliver a mine
- △ Wherever possible, run workstreams in parallel

## △ **Develop and execute “a starter mine” (Niagara and Simandou North)**

- △ Stage 1 is executing the project that represents the “sweet spot” for a starter mine, with the right balance between risk and reward
  - ✓ Scale & Margin versus Capital & IRR
  - ✓ Access multi-user infrastructure – wherever possible
  - ✓ Partner with the right customers, neighbours, suppliers and contractors that fit with the strategy

## △ **Growth**

- △ Growth will come from expanding current project “starter mines” and developing new projects

## △ **Values based culture**

- △ “Do the right thing” is engrained in our decision making and how we go about doing our work
- △ We do business with a genuine commitment to the communities and environments in which we operate



# SIMANDOU NORTH – DEFINING A PROJECT

1. Rapid exploration – Drilling commenced in February 2024, and the Company has estimated an Oxide BIF Exploration Target of approximately **281-716Mt at a grade of 33 to 46% Fe**. Supporting metallurgical test work indicates the suitability of a simple wet gravity circuit which achieves a **61-64% Fe, low alumina (<0.5% Al<sub>2</sub>O<sub>3</sub>) hematite fines product<sup>1</sup>**. Regarding the Exploration Target for Simandou North Iron Project, the potential quantity and grade of the Exploration Target is conceptual in nature. There is insufficient exploration to estimate a Mineral Resource, and it is uncertain if further exploration will result in the estimation of a Mineral Resource.
2. Metallurgy and Processing
  - △ Preliminary bench scale metallurgical testwork results used in a flowsheet simulation achieved a 61-64% Fe, low alumina (<0.5%) hematite fines product from a simple wet gravity process<sup>1</sup>.
  - △ The next phase of metallurgical testwork is being progressed for 28 composites samples of Oxide BIF mineralization at the Nagrom metallurgical laboratory in Perth. The testwork is designed to support scoping study-level process plant capital and operating cost estimates<sup>2</sup>.
  - △ The beneficiation methods being assessed are widely used in iron ore processing in the Pilbara and globally in mineral sands production.
  - △ Subsequent programs will include additional testwork to refine and further develop the flowsheet and end product specification
3. Access to Infrastructure - Simandou railway, port and mine construction is proceeding to plan. Rio Tinto recently announced the Simfer JV is on track for first production late 2025<sup>3</sup>
4. Partnering - Arrow and Baosteel signed an MOU<sup>4</sup> providing a framework for concluding a binding iron ore mine gate sales agreement, which would then just necessitate transport of Arrow's Simandou North product to the Simandou rail line (Trans Guinean Rail – TGR).

1. Refer to ASX Announcement dated 6 August 2024 entitled "Exploration Target for Hematite Fines Project" for further details.

2. Refer to ASX Announcement dated 23 October 2024 entitled "Arrow takes key step towards project development with next phase of metallurgical testwork" for further details.

3. Rio Tinto September 2024 Quarter Results <https://www.riotinto.com/en/news/releases/2024/rio-tinto-releases-third-quarter-production-results>

4. Refer to ASX Announcement 21 October 2024 "Baosteel Resources and Arrow Minerals sign Iron Ore Development MOU" for further details.



# NIAGARA BAUXITE – TARGETS IDENTIFIED & DRILLING COMMENCED

1. Building on mineralisation defined by Vale in 2007, target areas have been identified, and drilling prioritised based on resource potential, distance to rail (the TGR), ease of access for mining, and favourable mining geometry.
2. Drilling has started with results expected within the quarter.
3. Program includes approximately 150-180 holes for ~2,000 metres and ~10 bulk samples for the purpose of ‘value in use’ testwork.
4. Niagara Bauxite is located approximately 100km from the TGR and therefore development of the project stands to benefit
5. Environmental baseline work for permitting has commenced
6. Arrow and Baosteel signed an MOU<sup>1</sup> which provides a framework for concluding a binding iron ore mine gate sales agreement and therefore providing Arrow the benefit of the entire infrastructure.
7. The Company has released an Exploration Target estimate for the Niagara Bauxite Project<sup>2</sup> of approximately **170 – 340Mt at a grade range of approximately 40 – 46 % Al<sub>2</sub>O<sub>3</sub>, and 1 – 4 % SiO<sub>2</sub><sup>3</sup>**, and has an option to acquire the Niagara Bauxite Project pursuant to the option agreement<sup>4</sup>. Regarding the Exploration Target for Niagara Bauxite Project, the potential quantity and grade of the Exploration Target is conceptual in nature. There has been insufficient exploration to estimate a Mineral Resource. It is uncertain if further exploration will result in the estimation of a Mineral Resource.

1. Refer to ASX Announcement 21 October 2024 “Baosteel Resources and Arrow Minerals sign Iron Ore Development MOU” for further details.

2. Refer to ASX Announcement dated 1 August 2024 entitled “Arrow Expands Bulks Presence with Major Bauxite Transaction” for further details.

3. Refer to ASX Announcement dated 7 August 2024 entitled “Exploration Target Estimate for Niagara Bauxite Project” for further details.



# CORPORATE OVERVIEW

## CAPITAL STRUCTURE<sup>1</sup>

Share Price	\$0.002
52 Week Range	\$0.001-\$0.009
Market Capitalisation	\$26m
<b>Total number of shares on issue</b>	<b>13.0bn</b>
Performance Rights	21.0m
Unlisted Options	4.1bn

## MAJOR SHAREHOLDERS<sup>2</sup>

AMD Board and Management	4.8%
Top 20 Shareholders	35.9%
<b>CASH BALANCE as at 30 Sep 24</b>	<b>\$4.5m</b>

1. As at 15 October 2024
2. As at 15 October 2024

Note Price Graph source: asx.com.au on 24 October 2024





# BOARD & MANAGEMENT – PROVEN MINING PEOPLE



**Jeff Dowling**  
**NON-EXECUTIVE CHAIR**

More than 45 years experience across professional services with Ernst and Young and various mining companies. He served as a director of Atlas Iron during a period of rapid growth and cost cutting. He was also Chair of Sirius Resources prior to its takeover by independence. Mr Dowling is currently a Non-Executive Director at NRW Holdings, Fleetwood Corporation and S2 Resources.



**David Flanagan**  
BSc (Mining and Mineral Exploration WASM), FAICD  
**MANAGING DIRECTOR**

30 years' experience in the mining industry in Australia, Indonesia and Africa. Mr Flanagan was the founding Managing Director of Atlas Iron Limited where the company discovered and acquired substantial iron ore resources and developed substantial export infrastructure in the Pilbara of WA, Chair of Battery Minerals and Executive Chair of Delta Lithium.



**Tommy McKeith**  
BSc (Hons), GDE (Mining),  
MBA, FAusIMM  
**NON-EXECUTIVE DIRECTOR**

30 years' experience in exploration, development and mining including extensive African experience. Tommy was previously a senior Executive of Goldfields Ltd, a globally significant gold producer. Currently NED of Evolution Mining and CleanTech Lithium PLC (AIM-listed)



**Chris Tuckwell**  
**NON-EXECUTIVE DIRECTOR**

Engineer with over 40 years' experience in mining, mining services and mine development. Mr Tuckwell has notable experience as Managing Director of MACA Limited and Chief Operating Officer and Country Manager of African Mining Services (Ausdrill) in both West and East Africa. He has extensive Australian mining experience of late including being responsible for the rapid development of Fenix Resources' Iron Ridge DSO iron ore project.



**Jeremy Sinclair**  
B.Eng (Mining)  
**Projects Director**

Mining engineer with 30 years experience across various commodities, in executive, operational, technical and consulting roles. He has demonstrated significant capability in strategic planning, mine planning, project development, operations, health and safety, and performance improvement.



**Tony Muir**  
B.Com, FCA, AGIA  
**Chief Financial Officer**

Finance professional with 20 years experience in mining operations and project developments across multiple commodities. Prior roles include executive finance positions at Gold Road Resources Ltd and Sinosteel Midwest Corporation Ltd.



**Marcus Reston**  
BSc (Hons) FAusIMM FGS  
MAIG  
**Technical Manager**

Geologist with 30 years experience and a successful track record of managing major exploration programs, Technical & Feasibility Studies & major due diligence engagements informing project finance. 15 years iron ore and bulk commodity experience, managing programs that have delivered 14 billion tonnes of iron ore resources.



**Moussa Dabo**  
BSc CME  
**Country Manager**

Moussa holds a BSc in Project Management from the University of Houston, and is dedicated to meaningful positive impact in the communities where he works. His career includes a notable period as Lead Coordination Engineer at Rio Tinto and Senior Advisor at Paulo Gomes & Partners.

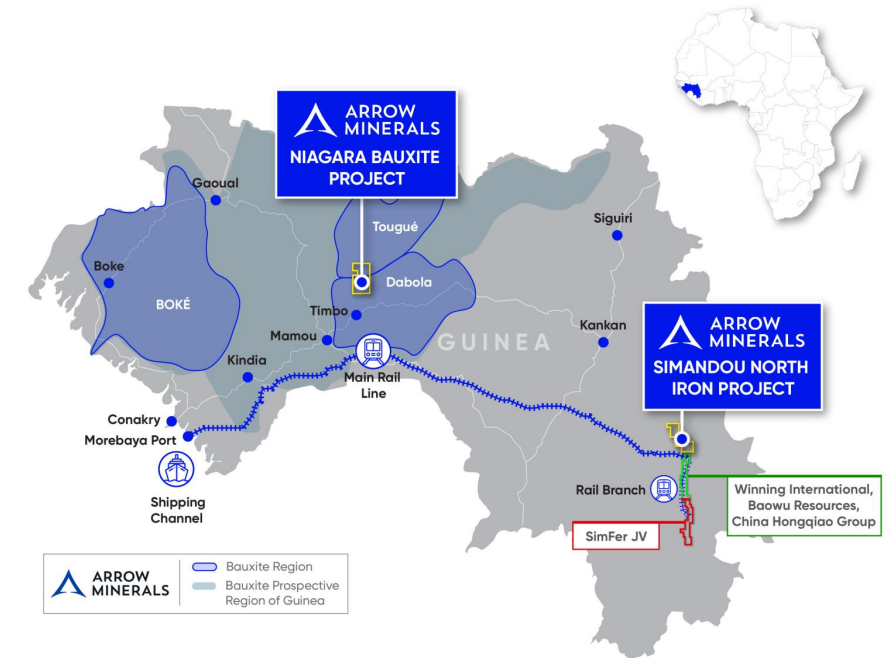




# THE TIME IS NOW

“The timing is perfect, infrastructure is nearly built, we are progressing the assets and the demand for our commodities is looking great”

- △ Arrow’s Simandou North Iron Project and Niagara Bauxite Project<sup>1</sup> are both advanced projects located in trucking distance to the multi-user Simandou railway (Trans-Guinean Railway - TGR), due for commissioning in late 2025.
- △ With a proven capability to develop projects, Arrow has a unique opportunity to develop projects within the TGR corridor in a timely manner.
- △ Arrow’s objective is to complete resource estimates and scoping studies on both projects in 2025, and transition to feasibility studies, reserve estimates and permitting for ‘starter mines’ as soon as possible.
- △ Aluminium is an important strategic mineral of the future. Demand is growing and it is a key ingredient in global electrification and decarbonization.



1. Refer to ASX Announcement dated 1 August 2024 entitled “Arrow Expands Bulks Presence with Major Bauxite Transaction” for further details.

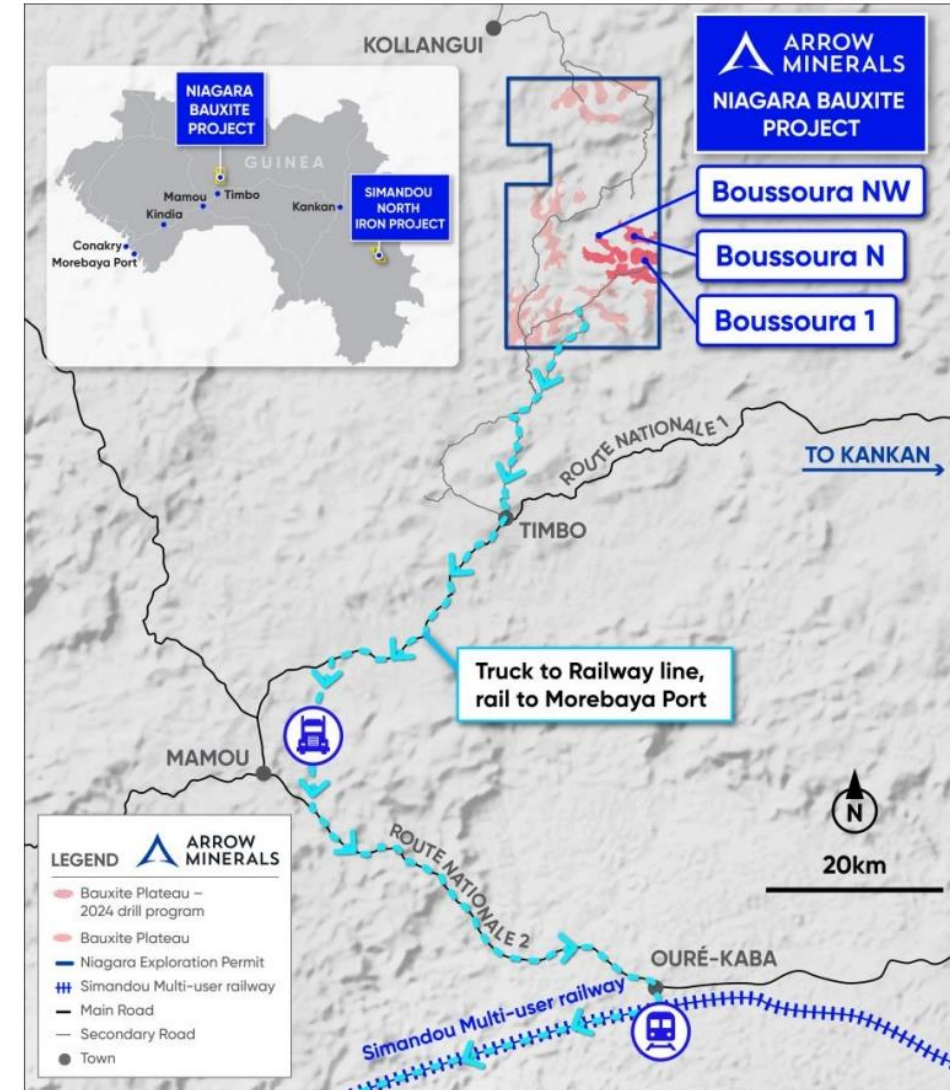


# NIAGARA BAUXITE PROJECT

“A transformational project, close to the Trans-Guinean Railway in the world’s most important bauxite province”

- △ There are records of 448 drill holes completed on the project. Last drilled by Vale in 2007. Since 2007 the bauxite price has tripled from global bauxite consumption has more than doubled from 210Mtpa<sup>1</sup> to 440Mtpa<sup>2</sup>, sustained prices ~US\$75/t<sup>3</sup> and a new multi-user railway is due for commissioning in the region in 2025.
- △ The tenement has been the subject to extensive drilling, foreign resource estimates, geological mapping and bauxite characterisation. This is a mature exploration project.
- △ As the world’s largest bauxite producer, Guinea has a strong capability in mining and supply chain management in bulk commodities.
- △ The Company has an option to acquire the Niagara Bauxite Project pursuant to the option agreement over the project announced on 1 August 2024<sup>4</sup>.
- △ The Company has released an Exploration Target estimate for the Niagara Bauxite Project of approximately **170 – 340Mt at a grade range of approximately 40 – 46 % Al<sub>2</sub>O<sub>3</sub>, and 1 – 4 % SiO<sub>2</sub>**<sup>5</sup>. Regarding the Exploration Target for Niagara Bauxite Project, the potential quantity and grade of the Exploration Target is conceptual in nature. There has been insufficient exploration to estimate a Mineral Resource. It is uncertain if further exploration will result in the estimation of a Mineral Resource.

1. US Geological Survey Commodities data 2008  
2. Mining Technology, Growing demand for bauxite highlights risks of dependence on Guinea’s supplies June 2024  
3. Alumina Ltd Presentation March 2023, Shaw and Partners Forecasts and CM Group  
4. Refer to ASX Announcement dated 1 August 2024 entitled “Arrow Expands Bulks Presence with Major Bauxite Transaction” for further details.  
5. Refer to ASX Announcement dated 7 August 2024 entitled “Exploration Target Estimate for Niagara Bauxite Project” for further details.

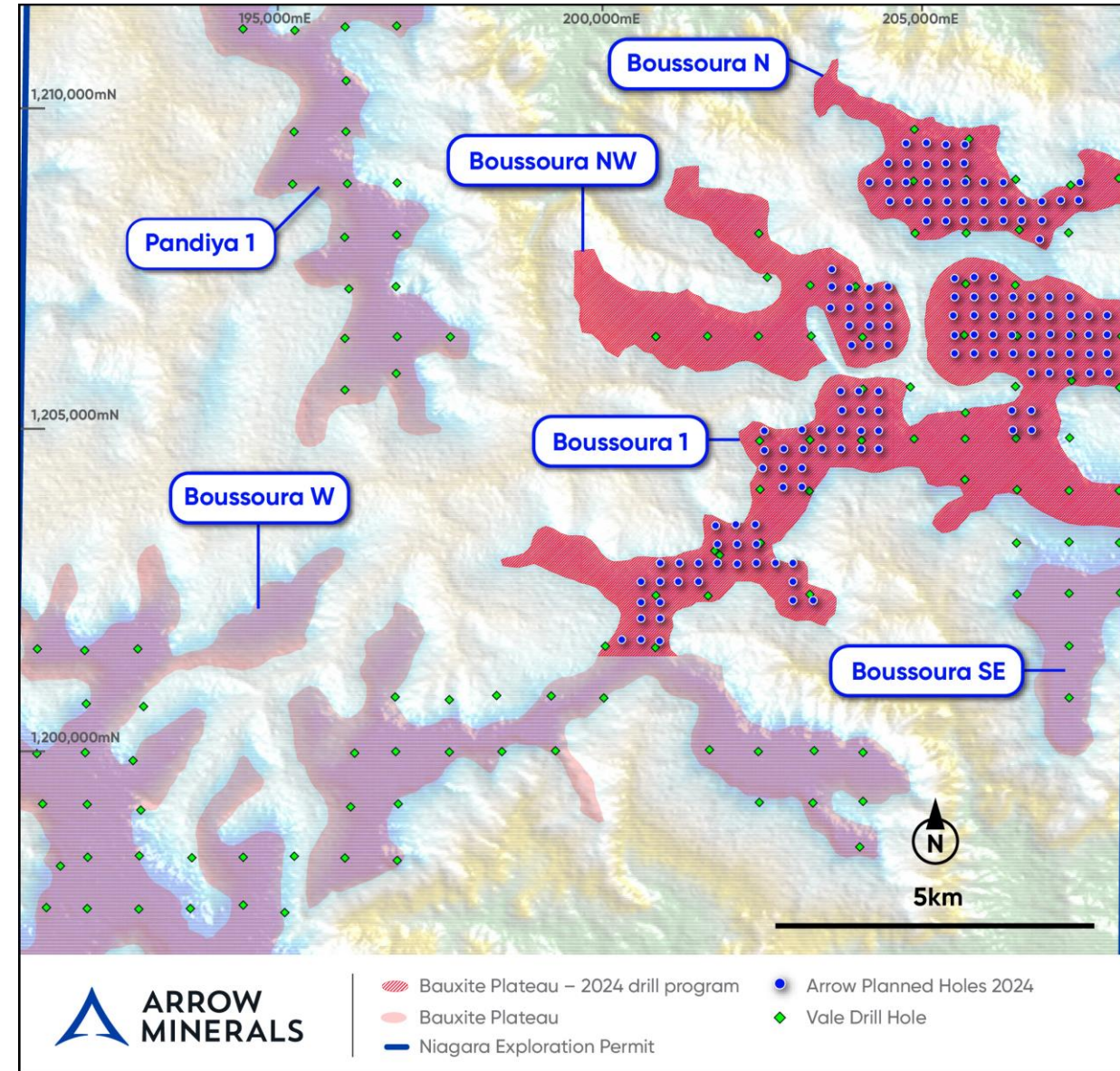




# NIAGARA BAUXITE PROJECT

“Resource Drilling has commenced – Mineralisation is typically at surface to depths up to 14 metres”

- △ Using 180 holes drilled by Vale in 2007 from a combined 448 historical holes as a guide:
  - △ Drill approx. 150-180 holes for ~2,000 metres with the aim of confirming mineralization of 40-46%  $Al_2O_3$ .
- △ Boussoura 1, NW and N drilling is currently underway on 600 x 600 metre spacing.
- △ Objective is to:
  - △ Validate and verify historical drilling with new drilling.
  - △ Estimate indicated and inferred resources and prioritise areas for 10 large bulk samples for value in use (VIU) testwork.
- △ Future work:
  - △ Logistics and ore transport studies
  - △ First pass environmental impact assessment, community engagement, groundwater and geotechnical studies, marketing as well as waste and ore characterization
  - △ Target first drilling results due from December quarter and resource estimation in 1H 2025

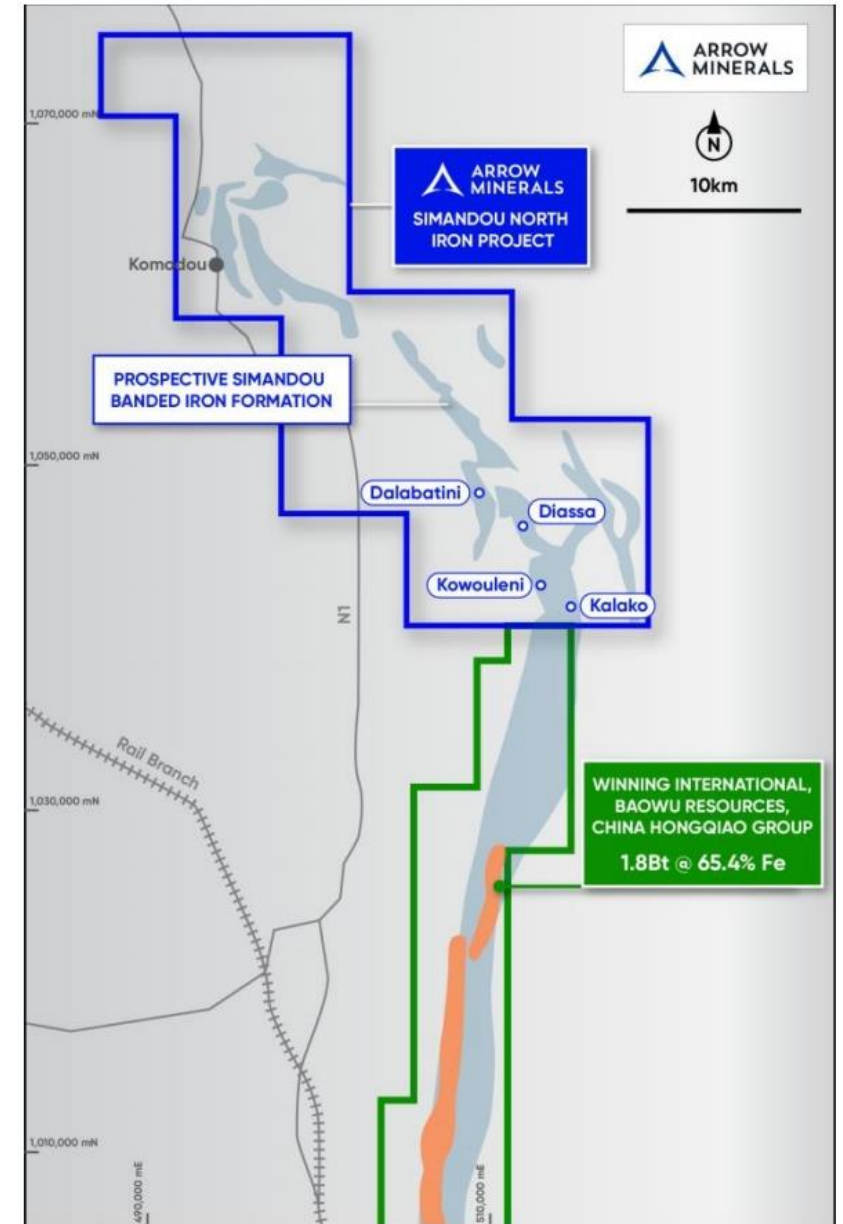


# SIMANDOU NORTH IRON PROJECT

“Potential for a large scale, high quality, long life project. Focused on a stage 1 ‘start up’ mine”

- ▲ 16 drill holes and 825 metres completed in 2023, 505 drill holes for 9,484 metres completed in 2024.
- ▲ Drilling at Simandou North Iron Project has delivered a significant Exploration Target of 281-716Mt of Simandou Iron Formation Oxide BIF at 33 - 46% Fe, with supporting bench scale metallurgical testwork achieving a 61 - 64% Fe, low alumina (<0.5% Al<sub>2</sub>O<sub>3</sub>) hematite fines product using a simple wet gravity process<sup>1</sup>. Regarding the Exploration Target provided for the Simandou North Iron Project, the potential quantity and grade of the Exploration Target is conceptual in nature. There is insufficient exploration to estimate a Mineral Resource, and it is uncertain if further exploration will result in the estimation of a Mineral Resource.
- ▲ 7 multi hole composites of Oxide BIF samples (2 x Friable (Soft) Oxide BIF and 5 x Intact Oxide BIF) have been processed through two campaigns of metallurgical test work. Metallurgical testwork results have been used in a flowsheet simulation and achieved a 61-64% Fe, low alumina (<0.5%) hematite fines product from a simple wet gravity process<sup>1</sup>.
- ▲ The next phase of metallurgical testwork has commenced on 28 composites samples of Oxide BIF mineralization at Nagrom in Perth<sup>2</sup>. The testwork is designed to support scoping study-level process plant capital and operating cost estimates.
- ▲ Exploration drilling to date has intersected modest high grade Direct Shipping grade >57% Fe hematite enriched BIF mineralisation. Exploration will be ongoing.

1. Refer to ASX Announcement dated 6 August 2024 entitled “Exploration Target for Hematite Fines Project” for further details.  
2. Refer to ASX Announcement dated 23 October 2024 entitled “Next phase of metallurgical testwork” for further details.



# SIMANDOU NORTH AND NIAGARA - NEXT STEPS

“We are very focused on executing the most efficient path to production and cashflow to create growth and returns for shareholders.”

1. Niagara Bauxite Project<sup>1</sup>: Our aim is to complete drilling, resource estimation, and a scoping study by mid-2025. This study will focus on capex, opex and financial returns of delivering a stage 1 “start-up” mine for our Niagara Bauxite Project. Drilling has commenced.
2. Simandou North Project: Our aim is to complete drilling, resource estimation, and a scoping study in 2025. This study will assess the capex, opex, and financial returns of a stage 1 “start-up” mine. Immediate work includes the next stage of metallurgical testwork, followed by scoping study-level flowsheet development and process plant capital and operating costs.
3. Partners: We will maintain strategic engagement on infrastructure access, equipment and services procurement, product offtake, mine gate sales, shipping services, infrastructure options, project finance and joint venture opportunities.

1. Refer to ASX Announcement dated 1 August 2024 entitled “Arrow Expands Bulks Presence with Major Bauxite Transaction” for further details.





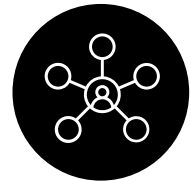
# BUILDING A BETTER FUTURE FOR OUR COMMUNITIES

## DEEPLY COMMITTED TO SUPPORTING THE LOCAL COMMUNITY AND RESPECTING THE ENVIRONMENT



### Environment

- △ Respect our environment and maintain high standards
- △ On-going rehabilitation throughout life of project



### Social

- △ Create long term jobs, maximizing sourcing from local suppliers and employment from local communities
- △ Leave a lasting legacy with initiatives that will survive exploration and mining



### Governance

- △ Ensure foundations for management and oversight in place
- △ All business activities conducted lawfully and ethically
- △ Manage risk through implementation of safe work practice with a strong focus on community wellbeing





# ARROW MINERALS LIMITED

ASX: AMD



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