ARROW MINERALS

ASX Announcement

19 January 2023

ASX SYMBOL: AMD

WEBSITE

www.arrowminerals.com.au

EMAIL

info@arrowminerals.com.au

MULTIPLE HAEMATITE ENRICHMENT TARGET ZONES IDENTIFIED SIMANDOU NORTH IRON PROJECT

Highlights

- **Five high priority, near surface drill targets identified, each extending over 5km in strike length**
- **Targets interpreted as zones of potential haematite enrichment**
- **Geophysical aeromagnetic responses correlate spatially with mapped iron bearing lithological units**
- **Drilling planned to commence this quarter (Q1 2023)**

Arrow Minerals Limited (ASX: AMD) (**Arrow**, or the **Company**) is pleased to announce the completion of Stage 1 of the reprocessing of the historical geophysical data by Mira Geoscience (**Mira**).

Five high priority areas have been identified, each between 5km and 7km in strike length (***Figure 1.***), that demonstrate modelled responses consistent with areas that have high potential for significant haematite development within the iron bearing lithologies.

In Stage 1, Mira has utilised two distinct modelling techniques, magnetic vector inversion (MVI) (***Figure 3***.) and geologically based VPmg magnetic modelling and inversion (***Figure 4.***) to identify shallow target zones (<200m) within the broader lithological units that have high potential for significant haematite development and enrichment. The results from both techniques compare favourably with each other and the surface geological mapping conducted by Arrow (***Figure 1***).

Arrow Managing Director, Hugh Bresser said "*It is extremely exciting to see these modelling results in combination with the recent field geology highlighting the potential of the Simandou North area. This includes 7km long near surface geophysical anomalies modelled coincident with mapped iron bearing lithological units. All this in an area where infrastructural developments are underway. Our next step is to mobilise the drill rigs and start testing these high-quality targets.*"

Arrow is moving to implement its maiden drilling program at the Simandou North Iron Project (AMD 33%) this quarter. The drilling program will contribute towards Arrow earning rights to a 60.5% controlling interest in the project (AMD ASX announcement 24 October 2022). Details of the drill program and commencement of drilling will be announced in due course.

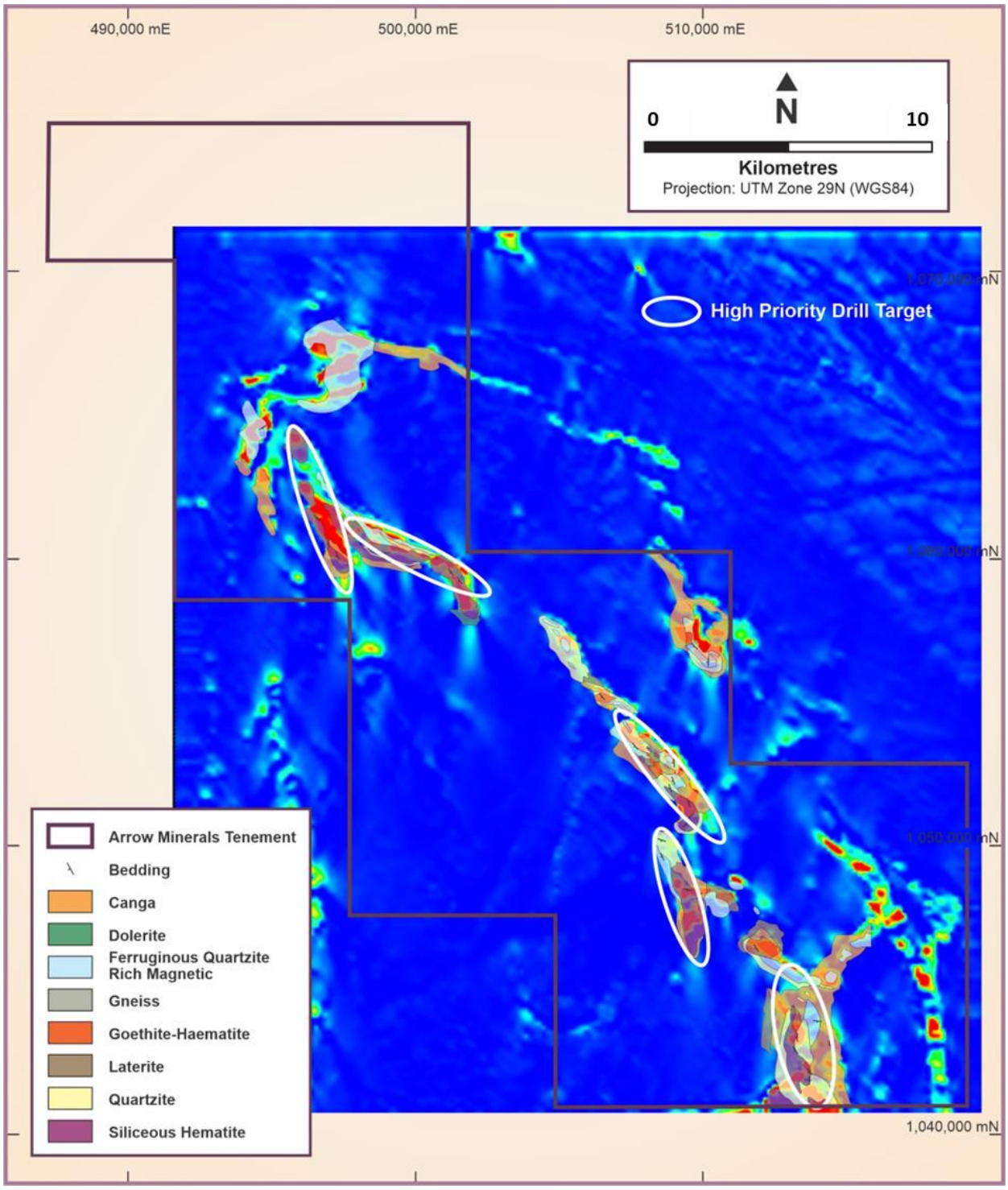

Figure 1. High priority drill targets highlighted on first pass inversion 100m depth slice using modelled BIF domains overlain with mapped surface geology. The correlation between geophysical modelling and geology provide confidence in the target vectoring.

The five high priority areas within the Simandou North Iron Project area identified through the reprocessing and modelling by Mira Geoscience of historical raw data flown by Fugro Geophysics in 2007 demonstrate significant zones of lower amplitude magnetic response within broad high amplitude magnetic bodies (***Figure 1***). Each target area extends for 5km to 7km in strike length. The zones within the target areas containing lower magnetic susceptibility are interpreted as having high potential for significant haematite development and enrichment.

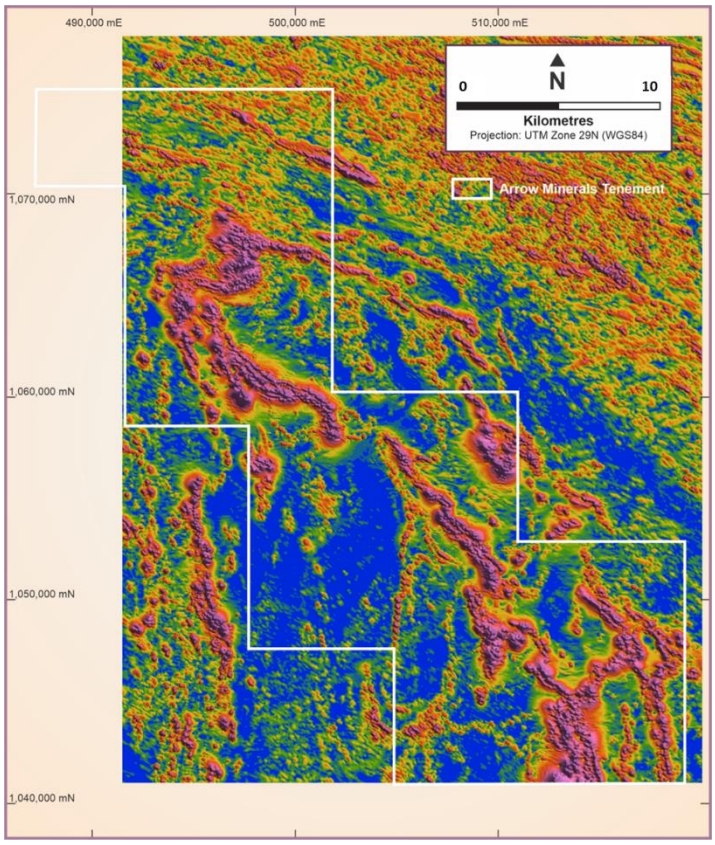

Figure 2. Simandou North Iron Project permit map showing Magnetic Analytical Signal image prepared by Mira Geoscience using the raw geophysical data originally flown by Fugro in 2007. This image highlights the Simandou Group stratigraphy in the project area.

Spatially the potential haematite enriched zones correlate well between the two geophysical modelling techniques applied (***Figures 3 & 4***) and the three high potential lithologic units, Siliceous heamatite, Goethite-haematite and Canga (see AMD ASX announcement 17 January 2023), mapped in the upper zones of the Simandou North Iron Project permit area. Modelled depth slices indicate these zones occur from surface to at least 100m depth and provide high quality drill targets for Arrow.

Arrow is now utilising the new geophysical information in combination with recent field geological mapping data, to develop a phase one drill program to test the high priority targets for high grade iron rich zones within the Simandou North Iron Project.

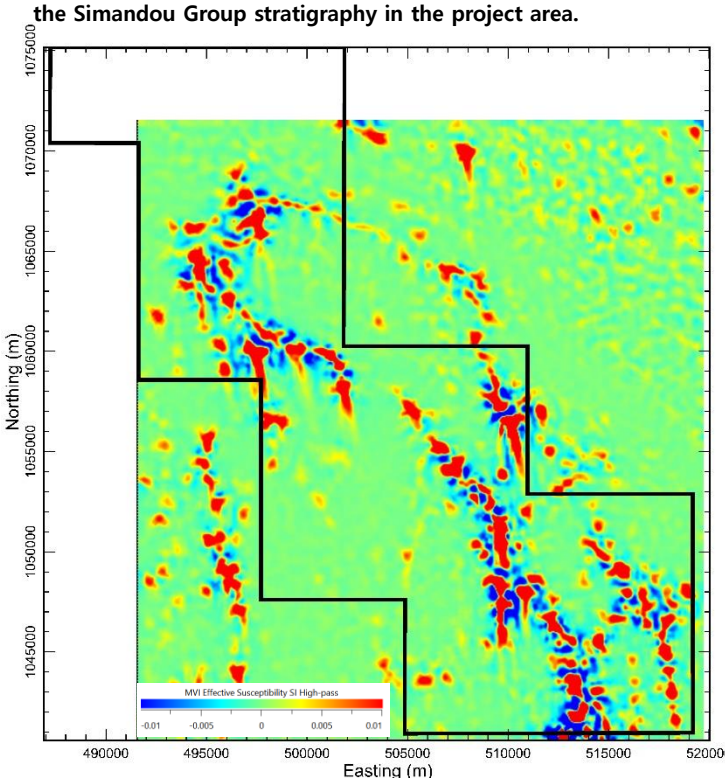

Figure 3. Enhanced high pass filtered MVI 100m depth slice. This filtered representation helps to show the pockets of magnetite depletion, interpreted as haematite development within larger high amplitude bodies (Datum WGS84-29N).

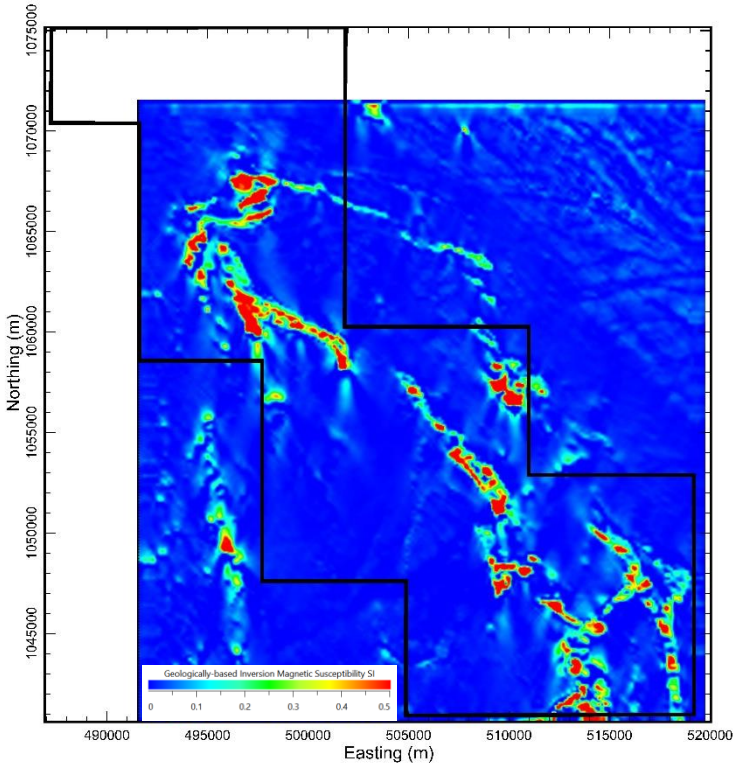

Figure 4. First pass geologically-based inversion 100m depth slice using modelled BIF domains as constraints. The resultant decrease in magnetic susceptibility inside BIF units is interpreted as zones of haematite enrichment (Datum WGS84-29N).

SIMANDOU NORTH

The Simandou North Iron Project (***Figure 5***) lies at the northern end of the Simandou Range and forms an extension of the stratigraphy that hosts one of the largest undeveloped high-grade iron deposits in the world, including WCS's Block 1 & 2 with a reported measured, indicated and inferred mineral resource of 1.8 billion tonnes at 65.4% Fe and Rio Tinto Simfer's (Simfer) Simandou Project Block 3 & 4 with a total measured, indicated and inferred mineral resource estimate of 2 billion tonnes grading 65.5% iron.

The government of Guinea, Simfer and WCS created *La Compagnie du TransGuineen* on 27 July 2022, a JV Company to co-develop the megaproject requiring the construction of the 670km "TransGuinean" railway, extending from the Simandou Ranges to Forécariah on the coast where the deep-water port and ship loading infrastructure will be built at Morebaya. This $US15 billion major capital investment is set to deliver shared purpose infrastructure to the area, expected to be completed by December 2024, enabling commercial production from mines in the area by 2025.

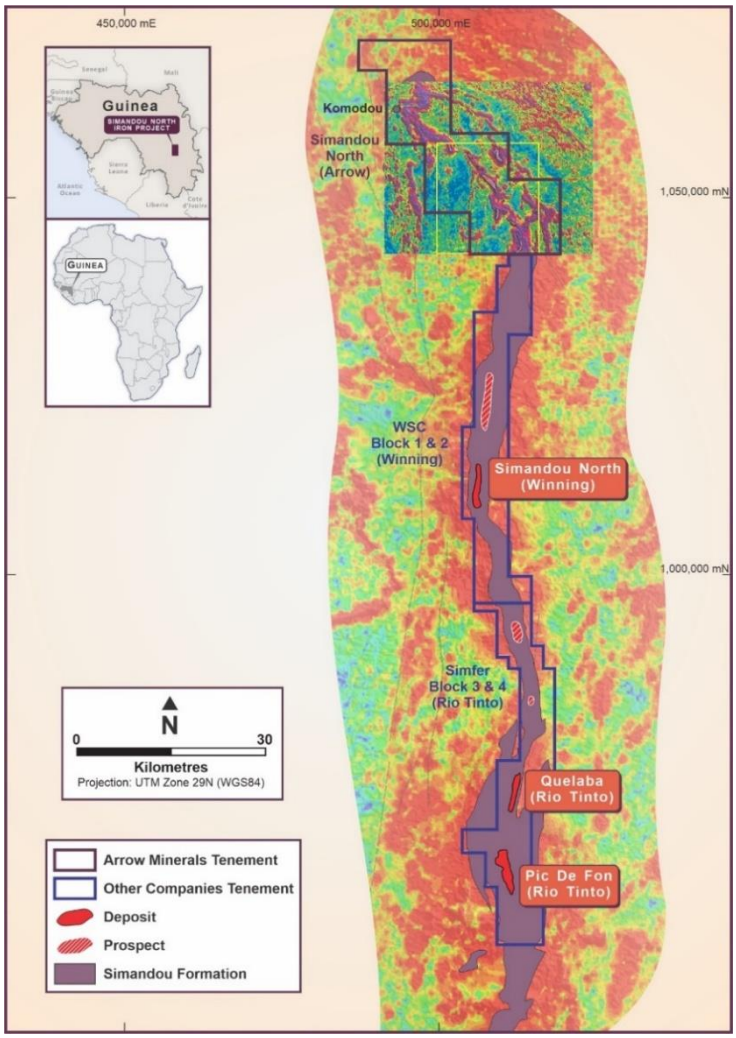

Figure 5. Map showing distribution of the Simandou Range stratigraphy, including known iron deposits, extending north through Simfer (Rio Tinto) Blocks 3 & 4, WSC Blocks 1 & 2, into Arrow's Simandou North Iron Project area where detailed airborne magnetic geophysical image highlights the interpreted stratigraphic continuation (Datum WGS84-29N).

On January 5, 2023 a term sheet for the financing, development, construction and operation of the rail and port infrastructure was signed by the partners, including the Guinean government, Rio Tinto, Chinalco, Winning Consortium Simandou and Baowu Group, for the multi-purpose and multi-user infrastructure project (***Figure 6***.).

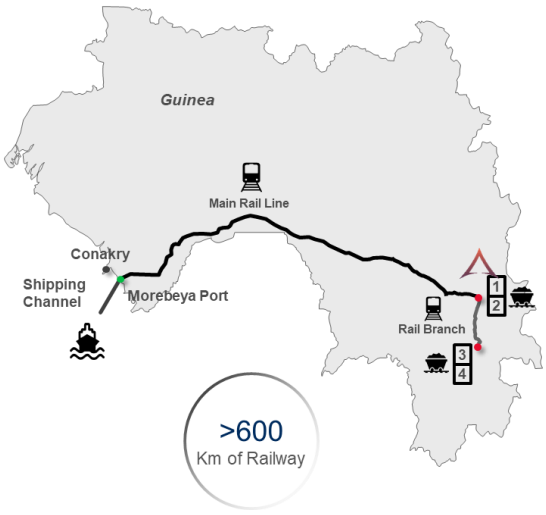

Figure 6. Figure 6. Schematic diagram from *La Compagnie du TransGuineen* showing planned port location and rail route relative to the Simandou Range iron projects.

ARROW MINERALS STRATEGY

Arrow Minerals has a strategy of delivering long-term value to shareholders through the discovery and development of economic mineral deposits in West Africa. Arrow has beneficial rights of 33.3% in the Simandou North Iron Project, Guinea and a clear road map to extend these rights to 60.5% within 24 months. Arrow aims to systematically advance the Simandou North Iron Project over the coming months to identify areas of high-grade iron within the project area an realise the potential value released through the major infrastructural upgrades, rail and port, underway in the region.

Announcement authorised for release by Mr Hugh Bresser, Managing Director of Arrow Minerals.

For further information visit www.arrowminerals.com.au or contact info@arrowminerals.com.au

Competent Persons Statement

The information in this report that relates to Exploration Results is based on information compiled by Mr Hugh Bresser who is a Member of the Australian Institute of Geoscientists and Australasian Institute of Mining and Metallurgy. Mr Bresser is an employee of Milagro Ventures which provides executive and technical consultancy services to Arrow Minerals, Mr Bresser is in the role of Managing Director of Arrow Minerals, he has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2012 Edition of the "Australasian Code for Reporting of Exploration Results, Minerals Resources and Ore Reserves". Mr Bresser consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

Mira Geoscience Geophysical Modelling

Introduction

Mira Geoscience completed magnetic modelling and inversion applied to the historical aeromagnetic data set for Simandou North Iron Project. In the course of this work, preliminary products were generated to assist interpretation of near surface magnetisation variations within the iron formations. The description herein explains the generation of these products. It is important to state that the work summarised herein is part of a larger project designed to investigate strategies for managing the magnetic challenges at Simandou North Iron Project. The described results representing an initial phase of modelling.

Input data

The input data for magnetic modelling was from a 2007 Aeromagnetic survey flown by Fugro Airborne Surveys. Flight line spacing for the survey was 200m, but was infilled to 100m line spacing over the iron formations within the tenements of interest. Flight line orientation was SW/NE. The digital elevation model from the survey data was used to define the top of the model. Altimeter data from the survey was used to define the elevations of the measured data for magnetic modelling.

Method

As stated, the result shown herein are part of a larger project designed to investigate strategies for managing the magnetic challenges at Simandou North Iron Project (namely low inclination inducing fields, intense magnetic responses and magnetic remanence). The immediate aim was to implement quantitative modelling techniques (forward modelling and inversion) to derive a model, and products that highlighted near surface magnetic susceptibility or magnetisation variations. Two key products were generated, both were designed to address magnetic remanence in different ways:

1. Enhanced depth slice from a magnetic vector inversion (MVI) (***Figure 3***). An MVI solves for a 3D magnetisation vector. Often the magnetisation amplitude is used to infer the 3D location of magnetic domains, particularly in areas where magnetic remanence may be affecting the shape and interpretability of the magnetic anomaly. In this project the SimPEG MVI program was used to run the inversion. To enhance local variations of magnetisation, the 3D magnetisation amplitude model was high pass filtered. A 100m depth slice was extracted from the high pass filtered magnetisation model.
2. A geologically-based approach was adopted towards modelling and inversion (***Figure 4***). In this sense individual iron formation domains were interpreted and modelled in 3D, assigned magnetic susceptibility and magnetic remanence, then inversion was used to solve for magnetic susceptibility variations within the iron formation domains, then in the country rock to further improve the data fit. From this resultant model, a 100m depth slice was extracted for interpretation purposes. One of the key advantages of modelling individual iron formation domains is that each domain can be assigned its own magnetic remanence orientation and amplitude. In this exercise Mira Geoscience's VPmg was used for magnetic modelling and inversion. VPmg is a 3D forward modelling and inversion program that allows for assignment of magnetic remanence to domains, optimisation of magnetic remanence and magnetic susceptibility assigned to domains, and 3D magnetic susceptibility inversion to solve for susceptibility variations within domains.

Discussion

The two modelling techniques, MVI and the geologically based VPmg inversion, yielded results that exhibit reasonable consistency in terms of magnetic susceptibility highs and lows. This provides confidence in the modelling outcomes and for interpretation of magnetic lows, and cross-validated against the computed analytic signal response of the data. During this preliminary stage of geologically-based modelling there is ambiguity between the dip of iron formation domains and the magnetic remanence assigned to domains, however given that initial attention has only been on the very shallow part of the model, it has not been essential for identification of near surface magnetic highs and lows to arduously separate out the contribution to the magnetic response of dip and magnetic remanence. Ongoing modelling is seeking to better establish geometries of the iron formations at depth and magnetic remanence of domains.

JORC Code 2012 Edition

Section 1 Sampling Techniques and Data

Criteria	JORC Code explanation	Commentary
Sampling techniques	• *Nature and quality of sampling (eg cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.* • *Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.* • *Aspects of the determination of mineralisation that are Material to the Public Report.* • *In cases where 'industry standard' work has been done this would be relatively simple (eg 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (eg submarine nodules) may warrant disclosure of detailed information.*	**Geophysical Surveys** • The airborne geophysical survey acquired magnetic and gamma-ray spectrometer (radiometric) data.
Drilling techniques	• *Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg core diameter, triple or standard tube, depth of diamond tails, face-sampling bit, or other type, whether core is oriented and if so, by what method, etc).*	**No drilling reported**
Drill sample recovery	• *Method of recording and assessing core and chip sample recoveries and results assessed.* • *Measures taken to maximise sample recovery and ensure representative nature of the samples.* • *Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.*	**No drilling reported**
Logging	• *Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.* • *Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.* • *The total length and percentage of the relevant intersections logged.*	**No drilling reported**
Sub-sampling techniques and sample preparation	• *If core, whether cut or sawn and whether quarter, half or all core taken.* • *If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.* • *For all sample types, the nature, quality, and appropriateness of the sample preparation technique.* • *Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.*	**No drilling reported**

Criteria	JORC Code explanation	Commentary
	• *Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second-half sampling.* • *Whether sample sizes are appropriate to the grain size of the material being sampled.*	
Quality of assay data and laboratory tests	• *The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.* • *For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.* • *Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.*	**Geophysical Survey** • During the survey all data collection was check for quality of data capture, where data capture was below agreed standards the areas were re-flown. • 2,000m tie lines were flown to level the aeromagnetic data from line to line and.validate data collection from an alternative orientation. Tie lines were spaced at 1,000m where flight lines were infilled to 100m.
Verification of sampling and assaying	• *The verification of significant intersections by either independent or alternative company personnel.* • *The use of twinned holes.* • *Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.* • *Discuss any adjustment to assay data.*	**Geophysical Survey** • 2,000m tie lines were flown to validate data collection from an alternative orientation. Tie lines were spaced at 1,000m where flight lines were infilled to 100m. • Geophysical data collection instruments were calibrated at the start of the survey and subsequently checked each day prior to data collection.
Location of data points	• *Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.* • *Specification of the grid system used.* • *Quality and adequacy of topographic control.*	**Geophysical Survey** • Survey location and flight lines were tracked throughout the survey using aircraft mounted GPS systems collecting all data in GIS format. • All output images were generated in a WGS84, UTM zone 29N projection.
Data spacing and distribution	• *Data spacing for reporting of Exploration Results.* • *Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.* • *Whether sample compositing has been applied.*	**Geophysical Survey** • Data was collected along flight lines, at 200m and 100m spacing and oriented 45º, tie lines at 2,000m and 1,000m spacing oriented at 315º. • Nominal clearance was 20m.
Orientation of data in relation to geological structure	• *Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.* • *If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.*	• The historical geophysical data was flown perpendicular to the general stratigraphic trend and key geological features. This is appropriate for the known regional geology trends other than the identification of regional stratigraphy.
Sample security	• *The measures taken to ensure sample security.*	**Geophysical Survey** • Raw data was collected and retained by Fugro Airborne Surveys Pty Ltd for processing and analysis. • Mira Geoscience utilised the deliverable magnetic data products from Fugro Airborne Surveys Pty Ltd for reprocessing and modelling.
Audits or reviews	• *The results of any audits or reviews of sampling techniques and data.*	• Arrow is not aware of any audit or review conducted on the historical geophysical survey.

Section 2 Reporting of Exploration Results

(Criteria listed in the preceding section also apply to this section.)

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	• *Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.* • *The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.*	• The Simandou North Iron Project south east Guinea consists of a single permit owned by Societe Mineralfields GuineaSARLU a wholly owned subsidiary of Amalgamated Minerals Pte. Ltd. The permit details are ACtIF 22967, expiry 28/04/2024. • Arrow has entered into a non-binding term sheet to acquire a majority 60.5% interest in Amalgamated Minerals Pte. Ltd. The permits is granted and currently live and in good standing.
Exploration done by other parties	• *Acknowledgment and appraisal of exploration by other parties.*	• Minimal exploration has been conducted in the area by Vale and BSGR the report refers to this historical data.
Geology	• *Deposit type, geological setting, and style of mineralisation.*	• The iron deposits of the Simandou Range are located in the southern domain of the West African Craton. The Simandou Range is composed of metamorphosed supracrustal rocks of the Simandou Group that comprises basal quartzites, ferruginous quartzites, cherts, shales to phyllites and banded iron formations or itabirites. The rocks are interpreted to have been deformed by the 'Eburnean/Birimian' Orogeny. • The iron deposits are composed of selectively enriched iron formation/itabirite, located along a ridge of intensely deformed and strongly weathered Simandou Group rocks, which overlie a biotite granite-gneiss basement.

Drill hole Information	• *A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes:*
	  ○ *easting and northing of the drill hole collar*
	  ○ *elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar*
	  ○ *dip and azimuth of the hole*
	  ○ *down hole length and interception depth*
	  ○ *hole length.*
	• *If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.*
		• No drill holes are included in this report.

Data aggregation methods	• *In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg cutting of high grades) and cut-off grades are usually Material and should be stated.* • *Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.* • *The assumptions used for any reporting of metal equivalent values should be clearly stated.*	• No drill holes are included in this report.
Relationship between mineralisation widths and intercept lengths	• *These relationships are particularly important in the reporting of Exploration Results.* • *If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.* • *If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (eg 'down hole length, true width not known').*	• No mineralisation is included in this report.
Diagrams	• *Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.*	• Example geophysical images are provided in this document.

Criteria	JORC Code explanation	Commentary
Balanced reporting	• *Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.*	• Further exploration activities are required to allow assessment of potential target size and will be provided when Arrow Minerals progresses work and data validation.

Other substantive exploration data	• *Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.*	• This report addresses the outcomes and interpretation of reprocessed aeromagnetic geophysical data.
		• The geophysical survey produced numerous output images.
		• Magnetics, Radiometric and Landsat images were produced.
		• Geological Mapping
		  • 1:20,000 geological maps were developed based on field observations.
		  • Field reconnaissance was undertaken by Arrow Geologists to visually identify lithologies and map stratigraphic units

Further work	• *The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).* • *Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.*	• Further exploration work will occur across the Simandou North Iron Project utilising fit for purpose techniques that may include, reverse circulation and diamond drilling, ground, and airborne geophysics to investigate anomalies that, incorporating all data available, warrant further work to determine if economic mineralisation exists.