

## FEASIBILITY STUDY UPDATE

Australian based iron ore and steel development company, Kogi Iron Limited (ASX: KFE) (Kogi, Kogi Iron, or the Company) and its 100% owned Nigerian operating company, KCM Mining Limited (KCM) is pleased to provide the following update.

### INTRODUCTION

*Kogi has an objective of becoming a producer of cast steel billets to primarily satisfy the Nigerian domestic steel markets through the development of its 100% owned Agbaja Cast Steel project located in Kogi State, Republic of Nigeria, West Africa (“Agbaja” or “Agbaja Project”).*

### FUNDING OVERVIEW

On the 26th April 2021 the Company announced an equity capital raising of up to \$10.3 million before costs, by way of an institutional share placement to raise up to \$6.5 million, and a non-renounceable rights issue to raise up to \$3.8 million.

A general meeting of shareholders is to be held on 11 June 2021 to seek shareholder approval to proceed with the institutional share placement. If approved, these funds will be used primarily to progress the feasibility study and other scoping studies. The following provides a more detailed outline of the project, feasibility study plan and other activities.

The Company is pleased to have reached a stage whereby it is now in a position to raise capital (subject to shareholder approval), that will provide Kogi and KCM Mining with sufficient funding to:

- Progress our program of feasibility studies on an expeditious basis which is outlined in more detail below;
- Maintain the existing tenements and fully manage our obligations and tenement payments
- Further explore the dimensions of the asset to fully appreciate the scale of this significant resource;
- Scale our internal capabilities and team in Nigeria to continually improve our capacity and stakeholder communication; and
- Explore strategic partnerships and other available asset possibilities with a view to augmenting and expedited a pathway to deliver shareholder value.

*Mr Hart said today “that to have secured access to level of funding since October 2020 that would, if fully taken up, total \$11.7 million is a key step forward for this business. It will finally allow us purposefully and expeditiously progress the objects of the business in the best interest of stakeholders and shareholders. **Shareholders are for these reasons encouraged to support this progress by voting in the affirmative for all the resolutions proposed for the upcoming EGM.**”*

## PROJECT BACKGROUND

The Agbaja Project is well placed to take advantage of the Nigerian Government's target, as part of the Economic Recovery and Growth Plan ("ERGP"), for the country to become self-sufficient in steel production. Nigeria's domestic demand for steel products is currently satisfied largely through the imports of scrap steel raw materials.

The Company has commenced a feasibility study for the Project and this update sets out feasibility study process and other works process.

## CURRENT ACTIVITIES

### Summary

Current activities are focussed on the ongoing Agbaja Project feasibility study planned for completion at the earliest possible timeframe. Progressive updates will be provided as completion milestones have been reached. Outlined below is a summary of works that have been completed to date, short term works presently underway and an outline, based on our current understanding, of the outstanding processes to be completed as part of the feasibility study.

### Feasibility Study

#### Short term studies (commenced):

- Preliminary operating cost assessment;
- Energy study;
- Small scale mining (option);
- Beneficiation;
- Documentation gap identification analysis and Feasibility scoping; and
- Resources and geology.

#### Feasibility Study (substantive elements to commence following funding approval)

#### Key activities to date have included:

- Mine design and optimisation (ongoing);
- Process plant design and costing (ongoing);
- Steel production test-work (small scale test completed, bulk sample testing is ongoing);
- Coal test-work (initial source, completed);
- Community Development Agreement (agreed and approved);
- Environmental studies (completed on the mine sites, ongoing for the proposed plant);
- Market study (to be updated); and
- Offtake and financing (ongoing).

A summary of these processes is provided below.

## Short Term Studies

### Operating Cost Review

As reported in the Quarterly report, issued on 30 April 2021, the operations cost preliminary assessment is an initial part of the feasibility study and involves a review and validation of operating costs, including the build-up of a full mass and energy balance for the Project. Tenova Pyromet (Tenova) have been appointed to undertake this part of the study. Additional consultants will assist including FLSmidth (FLS) and Uvan Hagfors Teknolgi AB (UHT). Data has been submitted to FLS and we are awaiting the Direct Reduced Iron (DRI) and mass and energy balance analysis. This information will then be fed into the UHT program and then for final accumulation by Tenova.

### Energy Study

As reported in the Quarterly Report, issued on 30 April 2021, a critical part of the initial stages of the feasibility study will be the commissioning of an energy study along with the reactivation of discussions with the Nigerian authorities in relation to a gas supply and pricing. The Company has been aware for some time of the significance of energy input costs associated with the Project. The Company is in discussion with an energy advisers based in Nigeria and to the extent possible the Company will report to shareholders the outcomes of this process, subject to confidentiality restrictions.

### Small scale trial mining option

In June 2020, the Company announced it was considering a small scale and trial mining operation. The benefits of doing so included the collection of important data required for Environment, Social and Governance, the establishment of base infrastructure and agronomy and horticultural assessment. Once again, we are mindful of the Covid-19 impact, including limitations on visiting the site, the community and regulators. We are evaluating our alternatives and the feasibility of reactivating this activity.

### Beneficiation

The feasibility study will include further test-work utilising the 50 tonne bulk sample presently stored in South Africa. The test-work will include beneficiation test-work to manufacture bulk scale samples for pre-reduction and refining test-work.

### Resources and Geology

The Company has previously delineated and published a JORC Resource in support for the Agbaja Project. As reported in the Quarterly report released on 30 April 2021, the Company is currently reviewing further geological studies and a potential exploration program that will both benefit the feasibility study and also satisfy tenement obligations.

## Feasibility Study Program

### Feasibility Scoping

The Company has adopted a flexible strategy in scoping and progressing the feasibility study. In the first instance this involved commencing critical works within available funding some of which is included in the short-term work programs.

Over the life of the Project there has been a considerable amount of work completed. A review of these studies and reports is nearing completion (document gap analysis). In many instances these reports only need to be refreshed and updated. In some instances though, studies need to be initiated and completed. The feasibility study will comprise both the updated reports and new reports to signed off by the appointed feasibility study consulting firm.

This process represents the most efficient and best value for shareholders. Utilising both the investment made to date in existing studies and also the application of funds, subject to shareholder approval, to complete the feasibility studies.

Once the above process is completed and the feasibility study has been fully scoped, a schedule will be prepared and announced to shareholders

### Mine Design and Optimisation

Mine design and optimisation is ongoing however final designs and equipment will depend on the scope of the planned operation.

Mining operations are planned to be undertaken by a contractor, and are expected to be free dig given the friable nature of the mineralisation; following pre-strip it is expected that mining will commence by the development of a drop cut to the full depth of mineralisation, with mining then progressing along strike and the pit sequentially being backfilled with bleached laterite and processing tails.

The mining will initially involve pre-stripping of the laterite to expose the ore. Some laterite may be used for construction work, with the ferruginous laterite to be stockpiled for potential future treatment and the bleached material returned to the pits.

### Process Plant Design and Steel Test-work

The Company aims to be in a position where it can design the mining operations and plant without duplicating works previously undertaken. With this in mind the conceptual design includes:

- The beneficiation of ROM ore, including crushing and screening. Given the soft nature of the mineralisation beneficiation costs are expected to be low;
- The fines are stockpiled for potential future conversion to pellets, with the coarse material being fed into rotary kilns along with coal and limestone to make a DRI product; and
- Smelting of the DRI product in two EAFs (with integrated converters) to initially produce pig iron, followed by continuous casting to produce steel billets.

Agbaja ore has high levels of phosphorous. During small scale test-work, conducted by Mintek in 2018, phosphorous (and other deleterious elements) were successfully removed through the steel making Lab scale process.

The aim of this test-work was to:

- Demonstrate the technical feasibility of smelting beneficiated Agbaja iron ore in a pilot scale electric arc furnace to produce a crude pig iron, generate enough process information to assist with the design and construction of the process on a commercial scale;
- Demonstrate refining of the pig iron to produce a cast steel suitable for billet steel making; and
- Generate 50 kg of 'on-spec' cast steel for marketing purposes.

Significantly, this test-work was successful, with the finished product being within spec for a cast steel product suitable for use in billet making. Key parameters for a marketable product include (with the analyses of the test-work product in parentheses) >99.0% Fe (99.61%), <0.31% C (0.0939%), <0.30% Si (0.015%), <1.10% Mn (0.003%), <0.045% P (0.0194%) and <0.045% S (<0.0632%).

### Coal Test-work

In its natural form Iron ore occurs as iron oxide. To produce steel, the iron ore must be reduced using carbon. The primary source of carbon used in the steel making process is coking coal.

Metallurgical test-work undertaken to date has included an assessment of the suitability of local coals for use in the planned production. Initial studies were conducted by Torex which concluded that the two local coals tested are likely to be suitable for use as reductants in the pre-reduction stage.

### Community Development Agreement

A key requirement for the granting of Mining Licences and the commencement of operations was the signing of the CDA with the local communities, followed by approval by the Federal Government. The CDA was signed in late 2016, with Federal Government approval being given in early 2017; this was followed soon after by the grant of ML24606 and ML24607 which cover the main area of the planned operations.

The CDA details the support that Kogi will provide for the local communities - this includes amongst others employment, training and education of prospective employees, and assistance with the supply of power and water to the communities.

On the other side, the CDA includes consents and support for the Project from the local communities. The Company recognises the importance of working with local communities and government.

### Environmental Studies/Approvals

The Environment studies have been completed and approved for the planned mining operations, however additional work and approvals are required for the proposed plant operations.

## Market Assessment

In 2018, the Company appointed Fastmarkets MB (formerly Metal Bulletin) to undertake a market assessment.

The study evaluated a number of growth scenarios for Nigeria, assessing opportunities and risks, which resulted, in amongst other things, in the following key conclusions, as released to the market on January 16, 2019:

- There will be forecast demand in the Nigerian markets to handle an additional 1.5 Mtpa of billet to supply the steel rolling operations;
- There is the potential to export 100,000 tpa to 250,000 tpa of billet to Ghana and Cameroon; and
- Key inputs into the study included: Expected recovery in billet demand to previous levels of 2.3 Mtpa by 2022-23, and up to 2.9 mtpa by 2030 from the current levels of ~1.4 Mtpa

The Company will be commissioning an updated marketing report, subject to available funding.

## Resource and Mineralisation

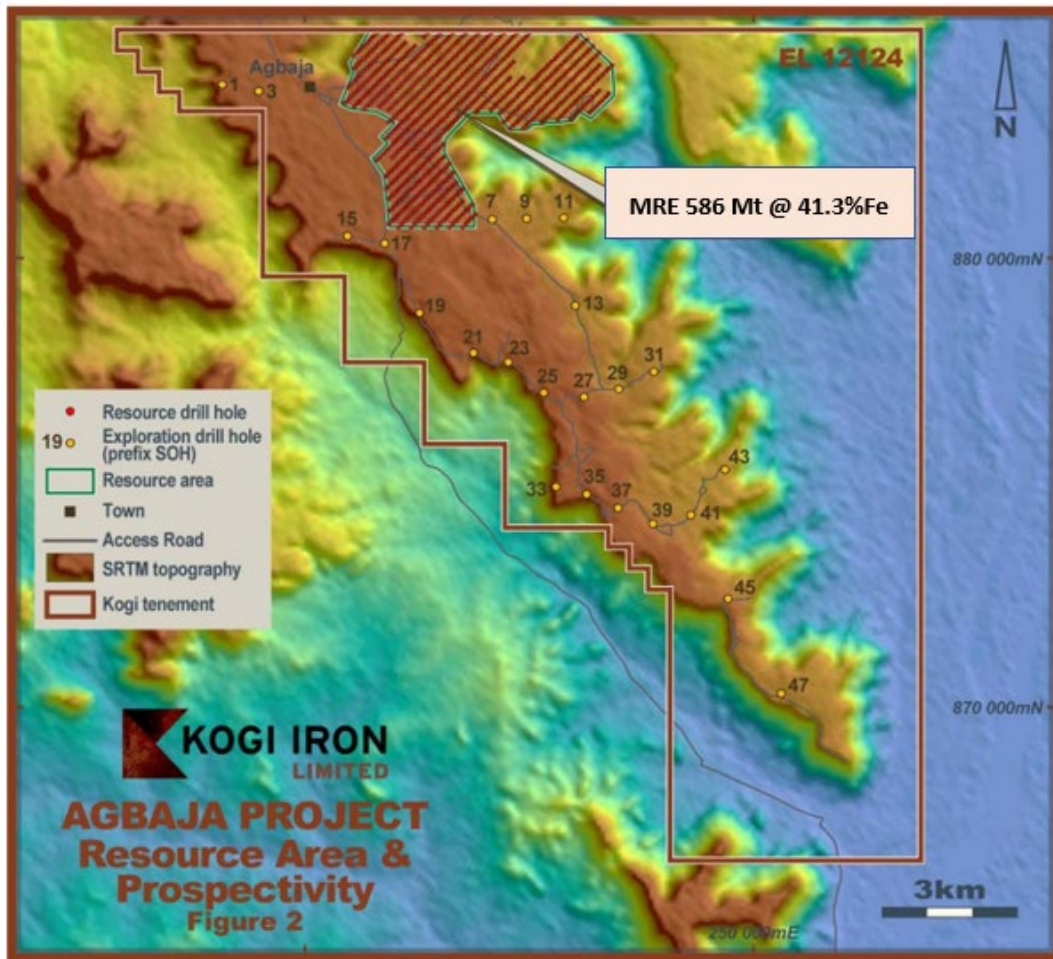
The cornerstone for the Project is the captive Agbaja oolitic iron deposit, which has an Inferred and Indicated Mineral Resource Estimate ("MRE") of 586.3 Mt @ 41.3% Fe (Refer ASX Announcement 10/12/2013; Table 1).

**Table 1 – Summary Grade Tonnage for Laterite (Zone A) and Oolitic (Zone B) Horizons (20% Fe lower cutoff is applied)**

Classification	Tonnes (Mt)	Fe (%)
<b>Zone A (Laterite Mineralisation)</b>		
Indicated	147.5	33.2
Inferred	33.9	31.7
Total Indicated + Inferred (Zone A)	181.4	32.9
<b>Zone B (Oolitic Mineralisation)</b>		
Indicated	318.7	45.2
Inferred	86.3	44.7
Total Indicated + Inferred (Zone B)	405.0	45.1
<b>Combined Zone A and Zone B</b>		
<b>Total Indicated</b>	<b>466.2</b>	<b>41.4</b>
<b>Total Inferred</b>	<b>120.1</b>	<b>41.1</b>
<b>Total Indicated + Inferred</b>	<b>586.3</b>	<b>41.3</b>

Preliminary assessments suggest that 405 Mt @ 45.1% Fe (79% Indicated) (Zone B) is of suitable quality and quantity for the 0.5Mtpa steel billet production rate contemplated in the feasibility study.

The MRE covers only 14.65 km<sup>2</sup> of the 142 km<sup>2</sup> of prospective plateau covered by the Company's tenements. The Company is presently planning its exploration program to obtain the best value from the available exploration targets within the suite of tenements held by the Company and to satisfy regulatory obligations attached to these tenements.



## Competent Persons Statement

The information in this announcement that relate to Mineral Resources for the Agbaja Project is based on information compiled by David Slater, Principal Resource Geologist of Coffey Mining who is a Chartered Professional Member of The Australasian Institute of Mining and Metallurgy and a Member of the Australian Institute of Geoscientists. The information in this announcement that relate to Exploration for the Agbaja Project is based on information compiled by Mr Kim Bischoff, a Member of The Australasian Institute of Mining and Metallurgy. Messers Slater and Bischoff have sufficient experience that is relevant to the style of mineralisation 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'. Previously announced information is cross referenced to the original announcements. In these cases, the Company is not aware of any new information or data that materially affects the information presented and that the technical parameters underpinning the estimates continue to apply and have not materially changed. The Company confirms that the form and context in which the Competent Persons findings are presented have not been materially modified from the original market announcements.

Authorised for release by the Board

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**About Kogi Iron (ASX: KFE)**

Kogi Iron Limited is a company with the objective of becoming a producer of cast steel billet product that can be sold to fabricators of finished steel products through the development of its 100% owned Agbaja Iron and Steel project located in Kogi State, Republic of Nigeria, West Africa ("Agbaja" or "Agbaja Project").

Nigeria has substantial domestic demand for steel products, which is currently met largely through imports of scrap steel raw materials. The Agbaja project, located on the Agbaja plateau approximately 15km northwest of Lokoja city in Kogi State and 200km southwest of Abuja, the capital city of Nigeria, opens the opportunity for domestic production of steel.

The Company holds a land position which covers a large part of the Agbaja Plateau. The Agbaja Plateau hosts an extensive, shallow, flat-lying channel iron deposit with an Indicated and Inferred Mineral Resource of 586 million tonnes with an in-situ iron grade of 41.3% reported in accordance with the JORC Code (2012) – Refer ASX announcement 10 December 2013. This mineral resource covers approximately 20% of the prospective plateau area within ML24606 and ML24607.