Cadence Minerals Plc

("Cadence Minerals", "Cadence", or "the Company")

Amapa Iron Ore Project Confirms Ability to Produce +67% Fe High Purity, Direct Reduction Iron Concentrates

Cadence Minerals (AIM: KDNC) is pleased to announce the metallurgical test results confirming the ability to produce high-purity, Direct Reduction grade ("DR-grade") iron concentrates at the Amapá Iron Ore Project ("Amapá" or the "Project") in northern Brazil.

Highlights:

- DR grade concentrate produced at 67.5% Fe with total silica and alumina below 1.5%.
- The process flowsheet has been confirmed to have a PFS level of accuracy.
- DR concentrate was achieved with a finer grind, magnetic separation and reverse flotation, as outlined in the announcement on **17 September 2024.**
- The forecast premium for DR-Grade concentrate is projected to rise to around US 20 for each 1% iron content above 65% Fe benchmark.
- A revised economic model based on the DR-Grade sheet is being prepared.

CEO, Kiran Morzaria, commented:*"We are excited to announce a significant milestone in the development of the Amapá Project. We have successfully produced a DR-Grade grade concentrate of 67.5% iron, characterised by low silica and alumina levels. The production of DR-grade products at Amapá will substantially improve the project's economics and allow us to further our discussion with potential collaborators and joint venture partners."*

"The demand for DR-grade products is essential for steel production methods that significantly lower carbon emissions. The demand for DR-grade feed is anticipated to increase by more than five-fold by 2050, reflecting the steel industry's commitment to decarbonisation. Despite the current limited supply of these products, DR-grade offerings are already commanding substantial price premiums, highlighting their value in the market."

Chairman, Andrew Suckling, added:*"On behalf of myself and the Board, I'd like to record our thanks and gratitude to our shareholders and stakeholders for their patience as we complete each milestone on the road to recommissioning Amapa. Our ability to produce this DR-grade concentrate adds a new value dimension to our flagship project. It gives the Board huge confidence that Amapa can play a role in "green steel" production and the decarbonisation of the iron and steel industry."*

Metallurgical Test Work Programme

Cadence previously announced that Amapá had developed a process flow sheet for producing Direct Reduction ("DR grade") concentrates with combined SiO_2 ("silica") and Al_2O_3 ("alumina") levels below the steel industry's DR grade standard of 2.5%. The initial results from the test work program have validated the Project's process flowsheet's ability to produce DR-grade concentrates.

The test results produced a weighted average final product with a concentrate grade of 67.5% Fe and impurity levels of 0.6% SiO_2 and 0.8% Al_2O_3. Furthermore, the iron concentrate grade is expected to be higher and exceed 68% Fe by appropriately adjusting the flotation reagent process parameters.

Pei Si Engineering Incorporated ("PSEI") conducted the test work and designed the flow sheet. The primary section of the flow sheet, which aims to upgrade the 65% product to 67%, involves regrinding, magnetic separation, and flotation. The test

The metallurgical test work established that the optimal flowsheet utilised a regrind, which feeds into a low-intensity magnetic separator ("LIMS"). This process produces two streams: the first stream goes to a reverse flotation circuit, while the second stream is sent to a high-intensity magnetic separator ("HIMS"), followed by a second reverse flotation circuit.

The results indicate that using a fine grinding process (with a fineness of -0.045mm at 79.5%)-LIMS-HIMS-flotation, two types of flotation iron concentrates were obtained: Concentrate I and Concentrate II. Concentrate I achieved a yield of 12.31%, a grade of 69.36% Fe, with SiO_2 and Al_2O_3 contents of 0.10% and 0.39%, respectively, and a total iron recovery rate of 12.89%. Concentrate II yielded 70.57%, with a grade of 67.15% Fe, SiO_2 content of 0.71%, Al_2O_3 content of 0.92%, and a total iron recovery rate of 71.55%. The iron concentrate grade is expected to exceed 68% with appropriate adjustments to the flotation reagent process parameters. The test results are presented in Table 1.

Table 1 Grinding-LIMS-HIMS-Flotation Test Results (%)

Product	Yield	Grade				Fe Recovery Rate
		Fe	SiO_2	Al_2O_3	P	
Flotation Con I	12.31	69.36	0.10	0.39	0.039	12.89
Flotation Con II	70.57	67.15	0.71	0.92	0.089	71.55
Flotation Middling	0.96	67.14	2.32	2.87	0.118	0.98
Flotation Tailings	6.25	65.92	3.29	3.13	0.22	6.22
HIMS Tailings	9.91	55.94	3.12	3.42	0.27	8.36
Feed	100.00	66.23	1.05	1.26	0.11	100.00

Product Analysis

The head assays of concentrate I, concentrate II, and the calculated product are shown in Table 2 below:

Table 2 The head assays of Concentrate I and Concentrate II (%)

Product	Fe	SiO_2	Al_2O_3	S	P	Cu	TiO_2	CaO	MgO
Concentrate I	69.36	0.10	0.39	0.0014	0.039	0.001	0.014	0.02	0.020
Concentrate II	67.15	0.71	0.92	0.0017	0.089	0.002	0.025	0.03	0.026
Product	67.48	0.62	0.84	0.0020	0.082	0.002	0.023	0.03	0.025

Upon microscopic examination of the sample, it was observed that the iron minerals were highly liberated, reaching over 90%, with occasional intergrowths of gangue minerals, such as quartz, alongside iron minerals like hematite. Fine grinding can further enhance liberation, which is beneficial for mineral processing to reduce the silica and alumina impurity content in the iron concentrate. It was also noted that phosphorus primarily adsorbs onto hematite, resulting in isomorphous substitutions. Given the iron content (above 67% Fe) and the low levels of silica and alumina impurities (totalling less than 2.5%), this product can be marketed as direct reduced ("DR") grade iron ore concentrate[1].
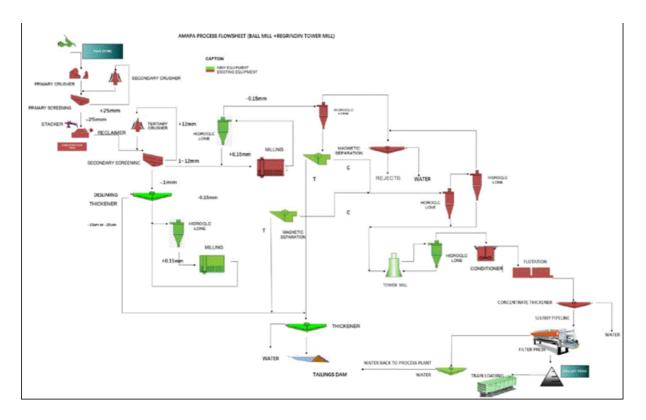
"Dr Grade" Concentrate Market and Price

The DR-grade feed suitable for low-emission steelmaking represents 3% of global seaborne iron ore production. Its availability is crucial for transitioning to "green steel" and decarbonising the iron and steel industry. DR-grade concentrates are used as feedstock for new Direct Reduced Iron / Electric Arc Furnace (DRI-EAF) facilities, replacing older, coal-dependent Blast Furnace / Basic Oxygen Furnace (BF-BOF) operations.

High-grade Blast Furnace feed (over 66% iron) is increasingly sought during this transition, as it lowers carbon emissions when blended with lower-grade Direct Shipping Ores (under 62% iron). The metallurgical tests focus on producing DR-grade Concentrates. These concentrates typically contain over 67.5% iron and low levels of impurities like silica, alumina, phosphorus, and sulphur, with a total of below 3%.

The current premium for DR-grade iron ore is approximately US 5 for each 1% iron content above 65%[2]. In comparison, this premium is projected to rise to around US 20 for each 1% iron content above 65%[3]. This change would have a positive impact on the Project's net present value ("NPV") of US 1.14 billion. We anticipate an improvement in the NPV in our updated economic model.

Next Steps

Testing has been conducted at the pre-feasibility study ("PFS") level. PSEI is currently reviewing the flow sheet outlined in Figure 1 below. The goal is to publish a revised economic analysis at the PFS level incorporating a product stream with an expected purity of 67.5% and an updated NPV.

Figure 1 Amapa Process Flowsheet

AMAPA PROCESS FLOWSHEET (BALL MILL +REGRINDIN TOWER MILL)

About the Amapá Project and Cadence Ownership

The Amapá Project is a brownfield integrated iron ore project in the Amapá State of Brazil. It has Mineral Resources of 276 million tonnes ("Mt") at 38.33% Iron ("Fe") and Ore Reserves of 196 Mt at 39.34%. The Project consists of the mine, processing plant, wholly owned port and a 194km railway, all operated by PBA.

As of 31 August 2024, Cadence's total investment in the Amapá million was approximately US 14.2 million, and its equity stake in the project stands at 34.5%, an increase of approximately US 0.57 million since 30 June 2024

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Kiran Morzaria B.Eng. (ACSM), MBA, has reviewed and approved the information contained in this announcement. Kiran holds a Bachelor of Engineering (Industrial Geology) from the Camborne School of Mines and an MBA (Finance) from CASS Business School.

Cautionary and Forward-Looking Statements

Certain statements in this announcement are or may be considered forward-looking. Forward-looking statements are identified by their use of terms and phrases such as "believe", "could", "should", "envisage", "estimate", "intend", "may", "plan", "will", or the negative of those variations or comparable expressions including references to assumptions. These forward-looking statements are not based on historical facts but rather on the Directors' current expectations and assumptions regarding the company's future growth results of operations performance, future capital, and other expenditures (including the amount, nature, and sources of funding thereof) competitive advantages business prospects and opportunities. Such forward-looking statements reflect the Directors' current beliefs and assumptions and are based on information currently available to the Directors. Many factors could cause actual results to differ materially from the results discussed in the forward-looking statements, including risks associated with vulnerability to general economic and business conditions, competition, environmental and other regulatory changes actions by governmental authorities, the availability of capital markets reliance on crucial personnel uninsured and underinsured losses and other factors many of which are

beyond the control of the company. Although any forward-looking statements contained in this announcement are based upon what the Directors believe to be reasonable assumptions. The company cannot assure investors that results will be consistent with such forward-looking statements.

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[1] Page 11, https://www.championiron.com/wp-content/uploads/2024/05/champion-may-2024-investors-presentation-final.pdf

[2] Page 56, https://www.angloamerican.com/~/media/Files/A/Anglo-American-Group-v5/PLC/investors/investor-presentations/anglo-american-hy24-results-presentation.pdf

[3] Page 56, https://www.angloamerican.com/~/media/Files/A/Anglo-American-Group-v5/PLC/investors/investor-presentations/anglo-american-hy24-results-presentation.pdf

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