

LONDON, Nov. 10, 2015 /CNW/ - [Horizonte Minerals Plc](#), (AIM: HZM, TSX: HZM) ('Horizonte' or 'the Company') the nickel development company focused in Brazil, is pleased to announce the completion of the integrated Rotary Kiln Electric Furnace ('RKEF') pilot plant campaign for its 100% owned Araguaia nickel project ('Araguaia') in Parà State, north-central Brazil, which produced high grade ferronickel on a continuous and sustained basis to commercial specification.

The pilot plant, located at Morro Azul in the State of Minas Gerais, processed 160 wet tonnes of ore over an 11 day period, 24 hours per day. The bulk sample was representative of the ore which the Company anticipates to be processed during the first nine years of commercial operation at Araguaia.

## Highlights

- Pilot plant campaign confirmed production of high grade commercial ferronickel from representative Araguaia ore
- Drying and agglomeration produced excellent feed material for processing in the high temperature rotary kiln
- Good quality calcine continuously produced in the rotary kiln with very low dust generation and favourable pre-reduction levels of about 60% for iron oxide and 10% nickel oxide reduction
- Electric furnace smelting of the calcine produced high quality ferronickel over a target range of commercial nickel grades and at a nickel recovery over 93%; both ingot casting and nickel granulation of the Fe-Ni product was successfully demonstrated
- No critical flaws were identified in the process flow sheet
- Full range of technical data to be incorporated in full Feasibility Study for final commercial RKEF design due in 2016, together with the additional data from the recently acquired Glencore nickel project

Horizonte CEO Jeremy Martin said, "I am delighted that the pilot plant campaign has demonstrated the production of commercial grade ferronickel on a continuous and sustained basis. The pilot facility operated by our metallurgical consultants IGEO is one of the most comprehensive facilities globally, being able to offer the complete integrated RKEF flow sheet which simulates full commercial production. The plant operated over an 11 day period, 24 hours per day with two metal pours each day, treating the representative bulk sample that was transported down from the Project. It was possible to produce high grade ferronickel with the key equipment operating in stable condition. No critical flaws were identified and the ore performance exceeded our original expectations. All of the information generated during this test will now be utilised to finalise the commercial RKEF design in the Feasibility Study. It was also good to have senior personnel from equipment suppliers ThyssenKrupp and SMS Siemag attending the programme.

"Our recently announced acquisition of the adjacent Glencore nickel project will also be integrated into the Feasibility Study. The ore type is very similar to Araguaia, with extensive metallurgical test work also completed. At this stage it is not envisaged that it will be necessary to run further pilot work on the combined project due to the high quality work completed by Xstrata / Glencore. I look forward to updating shareholders as we advance the combined projects through to Feasibility."

A short video of the pilot process is available on our website; [http://horizonteminerals.com/uk/en/araguaia\\_short\\_video/](http://horizonteminerals.com/uk/en/araguaia_short_video/)

## Further Details

The key objectives of the integrated pilot plant campaign were to confirm the smelting behaviour of the Araguaia ore, the mode of operation of the dryer/agglomerator-kiln-electric furnace, as well as the production of ferro-nickel and slag at the temperatures and quality under conditions similar to a commercial operation.

As previously reported by Horizonte on 27 April 2015, 240 wet tonnes (approximately 135 tonnes dry) of Araguaia ore, representative of that anticipated for the first nine years of commercial operation, were delivered to the RKEF pilot plant located at Morro Azul, Minas Gerais, Brazil. Of this, about 160 tonnes (wet) were processed.

The Morro Azul pilot plant was originally built by Anglo American and is now operated by Morro Azul in association with IGEO of Sao Paulo, Brazil. The facility has been used by a number of major nickel companies (including Vale and Anglo American) for pilot test work, staff training and final product testing. Horizonte has been the beneficiary of the many years of accumulated experience in the operation of and on-going improvements to the pilot plant.

The processing of the Araguaia ore commenced in mid-April 2015. For ease of ore handling in the pilot crusher, the as-received ore at about 42% moisture was first air-dried to about 30% moisture then, after crushing to less than 30mm, the material was homogenised and stockpiled. The crushed ore was then dried and agglomerated in a rotary drier specially fitted with lifters to reduce the free moisture content to approximately 20% while producing well-sized agglomerated particles. The pre-testing and commissioning of the dryer/agglomerator unit was previously completed in late January on a separate batch of Araguaia ore, as reported by Horizonte on 9 March 2015.

The dried and agglomerated ore mixed with coal as reductant was continuously introduced to the diesel-fired rotary kiln, producing excellent quality calcine with very little dust generation. Hot calcine at about 800°C was transferred to the electric furnace for smelting to ferronickel of pre-determined nickel grade and a low nickel slag. The ferronickel was periodically tapped

and either cast as ingots or granulated. Slag was tapped and granulated for later storage. After toxicity characteristic leaching procedure analysis (TCP), the slag was classified as Solid Waste Class IIB, Non-hazardous and Inert in accordance with the Brazilian solid waste classification.

The successful pilot campaign confirmed that smelting of Araguaia ore by the proven RKEF process is feasible and provided a wealth of technical data to be incorporated into the Feasibility Study.

#### About Horizonte Minerals:

[Horizonte Minerals Plc](#) is an AIM and TSX-listed nickel development company focused in Brazil, which wholly owns the advanced Araguaia nickel laterite project located to the south of the Carajas mineral district of northern Brazil.

The Company is developing Araguaia as the next major nickel mine in Brazil.

The Project, which has excellent infrastructure in place including rail, road, water and power, has a current NI 43-101 compliant Mineral Resource of 71.98Mt grading 1.33% Ni (Indicated) and 25.4Mt at 1.21% Ni (Inferred) at a 0.95% nickel cut-off; included in Resources is a Probable Reserve base of 21.2Mt at 1.66%Ni.

The Pre-Feasibility Study which was completed and reported on 25 March 2014, underpins the robust economics of developing a mine with a targeted 15,000tpa nickel in ferro-nickel output with a 20% Fe-Ni product over a 25 year mine life utilising the proven pyrometallurgical process of Rotary Kiln Electric Furnace technology. At these production rates, the project has a post-tax NPV of US\$519M at a discount rate of 8% and an IRR of 20%, with a capital cost of US\$582M which puts this project in the lowest quartile of the cost curve.

#### CAUTIONARY STATEMENT REGARDING FORWARD LOOKING INFORMATION

Except for statements of historical fact relating to the Company, certain information contained in this press release constitutes "forward-looking information" under Canadian securities legislation. Forward-looking information includes, but is not limited to, statements with respect to the potential of the Company's current or future property mineral projects; the success of exploration and mining activities; cost and timing of future exploration, production and development; the estimation of mineral resources and reserves and the ability of the Company to achieve its goals in respect of growing its mineral resources; and the realization of mineral resource and reserve estimates. Generally, forward-looking information can be identified by the use of forward-looking terminology such as "plans", "expects" or "does not expect", "is expected", "budget", "scheduled", "estimates", "forecasts", "intends", "anticipates" or "does not anticipate", or "believes", or variations of such words and phrases or statements that certain actions, events or results "may", "could", "would", "might" or "will be taken", "occur" or "be achieved". Forward-looking information is based on the reasonable assumptions, estimates, analysis and opinions of management made in light of its experience and its perception of trends, current conditions and expected developments, as well as other factors that management believes to be relevant and reasonable in the circumstances at the date that such statements are made, and are inherently subject to known and unknown risks, uncertainties and other factors that may cause the actual results, level of activity, performance or achievements of the Company to be materially different from those expressed or implied by such forward-looking information, including but not limited to risks related to: exploration and mining risks, competition from competitors with greater capital; the Company's lack of experience with respect to development-stage mining operations; fluctuations in metal prices; uninsured risks; environmental and other regulatory requirements; exploration, mining and other licences; the Company's future payment obligations; potential disputes with respect to the Company's title to, and the area of, its mining concessions; the Company's dependence on its ability to obtain sufficient financing in the future; the Company's dependence on its relationships with third parties; the Company's joint ventures; the potential of currency fluctuations and political or economic instability in countries in which the Company operates; currency exchange fluctuations; the Company's ability to manage its growth effectively; the trading market for the ordinary shares of the Company; uncertainty with respect to the Company's plans to continue to develop its operations and new projects; the Company's dependence on key personnel; possible conflicts of interest of directors and officers of the Company, and various risks associated with the legal and regulatory framework within which the Company operates.

Although management of the Company has attempted to identify important factors that could cause actual results to differ materially from those contained in forward-looking information, there may be other factors that cause results not to be as anticipated, estimated or intended. There can be no assurance that such statements will prove to be accurate, as actual results and future events could differ materially from those anticipated in such statements.

SOURCE [Horizonte Minerals Plc](#)

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