

# Mindoro Joint Venture Nears Completion of Definitive Feasibility Study on Agata Nickel Processing Project

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EDMONTON, ALBERTA--(Marketwired - Nov 25, 2014) - [Mindoro Resources Ltd.](#) (TSX VENTURE:MIO) (FRANKFURT:WKN 906167) today announced that Agata Processing Inc. ("**API**"), expects to complete a definitive feasibility study ("**DFS**") by the end of 2014 for a nickel processing plant at the Agata project, located in northern Mindanao, the Philippines. TVI Resource Development (Phils.), Inc. ("**TVIRD**") is operator of the nickel processing project and has the right to earn a 60% interest in API from Mindoro. The proposed nickel processing plant will use a proprietary and innovative combination of two proven technologies that aim to achieve maximum nickel recovery at low operating and initial capital cost.

"We are extremely pleased with the progress being made by the API joint venture in nearing completion of the DFS," stated Penny Gould, CEO of Mindoro. "Building on the current high iron/low nickel direct shipping ore operation, the proposed nickel processing plant would receive feed from the same mining site and produce an intermediate nickel product at low costs. We look forward to completion of the DFS by the end of the year and the significant value we believe it will add to Mindoro's Agata project."

Current direct shipping ore ("DSO") operations are focused on the upper zone of the Agata laterite orebody, which, as shown in the photo below, consists of an upper **ferruginous limonite** zone (high-iron/low nickel), an intermediate **limonite** zone (high iron/medium nickel), and a lower **saprolite** zone (low iron/medium-high nickel). The proposed nickel processing facility would process ore from the lower limonite and saprolite zones to produce a mixed hydroxide product ("MHP") with approximately 40% nickel content, which would be sold to the stainless steel market under offtake agreements.

An image is available at the following address: <http://media3.marketwire.com/docs/980846a.pdf>

## PROCESS INNOVATION

The process technology that TVIRD has been developing will revolutionize the way nickel laterites are processed in the industry. Currently, the most common technology used is high pressure acid leach ("HPAL"), a process which generally requires intense upfront capital expenditures ("CAPEX") of over \$1 billion. To avoid such high capex, TVIRD has engineered a two-stage process involving an initial Atmospheric Tank Leach ("ATL") process and a secondary Low Pressure Acid Leach ("LPAL") process. CAPEX is expected to range between \$150 million to \$200 million for this two-stage process in a modular plant that is capable of producing 7,000 tonnes of nickel equivalent product per year. More precise figures will be announced upon the completion of the DFS.

While both the ATL and LPAL processes on their own are well understood and proven technologies - ATL is used as a standalone process for nickel laterite and copper oxide operations and LPAL is commonly used in zinc processing - this would be the first time the two processes are combined in this order for the processing of nickel limonite and saprolite ore.

It is expected that the DFS will be completed by the end of the year.

## DFS METHODOLOGY & PROGRESS

The DFS scope of work was separated into two components: (1) a Philippine in-country component for items such as port, infrastructure, mining, residue storage and water supply; and (2) a Process Plant and Acid

## Plant component.

The in-country component was conducted by Philippine-based engineering companies as well as the TVIRD project team to ensure that this part of the scope is integrated optimally with the DSO project to increase operational and cost efficiency. Work completed to date includes the design of: (i) a management plan that aims to integrate a staged backfill plan with proposed mining stages while enabling progressive rehabilitation of mining areas to take place; (ii) a leached ore storage facility for the containment of residue generated from the ATL processing facility; (iii) a brine management system which would treat brine solution from the processing plant for safe discharge into the ocean through a subsea diffuser according to the release requirements of the Department of Energy and Natural Resources; and (iv) a water conveyance system to provide a dedicated water supply to the operation.

The Process Plant and Acid Plant component was designed by the Beijing General Research Institute of Mining & Metallurgy ("BGRIMM") and a prominent Chinese acid plant supplier, respectively. TVIRD selected BGRIMM to complete the process plant design due to its reputation as an international Chinese engineering company that is well experienced and recognized as a leader in nickel processing research with access to premium quality, cost-effective Chinese process equipment. The impact of this selection will be significant as approximately 80% of the project capital cost is related to the process and acid plants. The relationship with BGRIMM is further supported by its previous work on the project which involved extensive bench and pilot scale testing, as announced in Mindoro's March 18, 2014, press release. As such, test work seamlessly flowed into flow sheet development, process design and engineering and cost estimation with the same technology partner.

To date, process and acid plant engineering has been completed. This design culminated in a 3-D model of the plant; select static 3-D images available for viewing with this release at Mindoro's website at [www.mindoro.com](http://www.mindoro.com). Vendor quotations for all equipment have been received and integrated into the overall plant capital calculations. All raw materials and reagent requirements have been determined and vendor quotations obtained. This, together with other items such as labour costs, has been compiled to provide the process and acid plant operating cost. Both capital and operating costs are in line with previous indicative expectations.

## FUTURE PLANS

Once the DFS has been completed, TVIRD will move into detailed plant design and construction. The financing of plant construction, engineering, site development and procurement are planned for 2015 with plant construction and commissioning expected to proceed the following year.

## ABOUT THE AGATA NICKEL PROCESSING PROJECT

The Agata nickel processing project is held by API, a joint venture company in which TVIRD has the right to earn a 60% interest from Mindoro by spending a minimum of \$2 million within 12 months of the date of the Agata Processing Option and Joint Venture Agreement ("**API Agreement**"), signed on September 24, 2012, and completing a definitive feasibility study within 4 years of the date of the API Agreement. As of September 30, 2014, TVIRD has completed its requirement to spend a minimum of \$2 million and has earned 45% of the shares in API, which remain in escrow until satisfaction of other requirements.

The Agata project is located in Agusan del Norte province, within the Surigao mining region on the island of Mindanao, Philippines. The Surigao region is a major nickel producing region providing ore to processing plants in Australia, China, Korea and Japan.

## QUALIFIED PERSON

Dallas Cox, B.Eng (Mining), MAusIMM(CP), Principal Consultant of Crystal Sun Consulting Limited has worked as a mining engineer for 28 years, including 10 years as an independent mineral industry consultant. Mr. Cox graduated with a degree in Mining Engineering at the University of New South Wales, Kensington in 1986. He is a member of The Australasian Institute of Mining and Metallurgy, a Chartered Professional (CP), and a qualified person under the guidelines of National Instrument 43-101. Mr Cox has approved the scientific and technical information in this news release.

Mr. Cox has six years association with the Agata nickel project, since 2007, in various technical studies. Other relevant experience with respect to the Agata nickel project includes operational and technical services functions for Queensland Nickel Greenvale operations from 1987 to 1990, and mining and resource studies for Acoje Nickel Project (Zambales, Philippines), Adlay Nickel Project (Surigao del Norte, Philippines), Verdant Vale Nickel Project (Bukidnon, Philippines) and Chaldag Nickel Project (Turkey) between 2007 and 2011.

Mr. Cox is supported in his role by Vincent Smith, MSc, chemical engineer, project metallurgist, who has over 20 years of experience in metallurgical process development, operations and design across 50 mine sites encompassing 15 countries and was previously the group technology manager for [ENK plc](#), a nickel laterite development and production company in the Philippines.

## **ABOUT MINDORO**

Mindoro is a Tier 1 Issuer trading on the TSX Venture Exchange (MIO) and Frankfurt Stock Exchange (WKN 906167). Mindoro has a 40% interest in the Agata Mining Joint Venture and a 30% interest, plus an option to acquire an additional 25%, in the Agata Processing Joint Venture. Mindoro also holds 75% interest in the Pan de Azucar Sulphur-Copper-Gold Project, Iloilo. TVI Resource Development (Phils.), Inc. ("TVIRD") has the option to earn up to a 60% interest in the Agata Processing and Pan de Azucar projects by meeting the earn-in requirements outlined in the June 24, 2013, press release, which include producing a definitive feasibility study for a nickel processing facility. Mindoro also holds 75% interest and an option to acquire an additional 25% in the Tapian San Francisco Copper-Gold Project, Mindanao.

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## **IMPORTANT INFORMATION REGARDING FORWARD-LOOKING STATEMENTS**

*Certain information in this News Release constitutes forward-looking information. Forward-looking statements are often, but not always, identified by the use of words such as "seek", "anticipate", "plan", "continue", "estimate", "expect", "may", "will", "intend", "could", "might", "should", "believe", "scheduled", "to be", "will be" and similar expressions. Forward-looking statements are based upon the opinions and expectations of management of the Company as at the date of such statements. Although the Company believes that the expectations reflected in such forward-looking statements are based upon reasonable assumptions, it can give no assurance that those expectations will prove to have been correct. Forward-looking statements are subject to certain risks and uncertainties (known and unknown) that could cause actual outcomes to differ materially from those anticipated or implied by such forward-looking statements. These factors include, but are not limited to, such things as inherent risks associated with the exploration and development of mining properties, ultimate recoverability of mineral reserves, timing, results and costs of exploration and development activities, availability of financial resources or third-party financing, new laws (domestic or foreign), changes in administrative practices, changes in exploration plans or budgets, and availability of equipment and personnel.*

*Accordingly, readers should not place undue reliance upon forward-looking statements and such forward-looking statements should not be interpreted or regarded as guarantees of future outcomes. Forward-looking information respecting CAPEX, operating costs, development plans for Agata Processing Project, and overall strategy for Agata Processing Project are all subject to change. The forward-looking statements contained in this News Release are expressly qualified, in their entirety, by this cautionary statement. Various risks to which the Company is exposed in the conduct of its business (including mining activities) are described in detail in the Company's Annual Information Form for the year ended December 31, 2013, which was filed on SEDAR on March 31, 2014 and is available on the Company's website at [www.mindoro.com](http://www.mindoro.com) and under the Company's profile at [www.SEDAR.com](http://www.SEDAR.com). Subject to applicable securities laws, the Company does not undertake any obligation to publicly revise the forward-looking statements included in this News Release to reflect subsequent events or circumstances.*

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