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# AMUR MINERALS CORPORATION (AIM: AMC)

# Metallurgical Results Update – Copper Concentrate Test Work Status

Amur Minerals Corporation ("Amur" or the "Company"), the nickel-copper sulphide exploration and development company focused on the far east of Russia, is pleased to announce Gipronickel's H2 19 metallurgical test results and the status of the ongoing test work to establish the feasibility of generating a saleable copper concentrate. Gipronickel's phased approach has thus far identified design and operations specific parameters, the flowsheet used to process the representative ten tonne bulk sample to obtain a bulk nickel copper sulphide concentrate and is now in the midst of copper concentrate generation test work using a portion of the bulk sulphide concentrate. Successful generation of a copper concentrate sale options within the February 2019 Pre-Feasibility Study ("PFS") fully excluded any consideration for copper derived revenues as per available off take agreements available to the study.

Based on available historical metallurgical test results and additional H2 19 bench scale test work, a metallurgical processing flowsheet was identified for processing a ten tonne representative bulk sample (containing 0.76% nickel) proportionately derived from the planned mining areas.

Sample splits from the bulk sample have been processed utilising varying operating parameters and differing ratios of reagents to identify the optimal flowsheet. Gipronickel reports nickel recovery over the life of the mine will be in the order of 79.5% yielding a bulk concentrate containing 7.91% nickel. For copper, a recovery of 82.9% is projected with the bulk concentrate averaging 2.12% copper. Pre-Feasibility Study ("PFS") recoveries were projected to be in the order of 80.2% for nickel and 79.9% for copper.

In addition to confirming the PFS utilised nickel and copper recoveries, test work has established key operating parameters defining power requirements for ore treatment. Drop weight ("DWT") and semiautogenous grinding ("SAG") tests have established the size and specifications required for the comminution (crushing and grinding) circuit necessary to process the nominal six million ore tonnes per year. Reagent usage has also been determined. This information provides key input to updating both capital and operating costs.

Going forward, test work on the bulk concentrate derived from the ten tonne bulk sample is now being conducted to determine if a separate saleable copper concentrate can be generated in addition to that of a nickel concentrate. Successful generation of a copper concentrate could substantially increase the estimated project revenue as project financial appraisals previously reported in the Company's PFS have specifically excluded all revenue generation potentially attributable to copper. Generation of a separate copper concentrate could provide additive value by streaming funds alongside other forms of financing.

### **Robin Young, CEO of Amur Minerals Corporation, commented:**

"With the sum total of our metallurgical test work and the work that has been completed during the last five months, Gipronickel has delineated specific operational parameters related to the processing of all Kun-Manie ores that have been drill identified over the life of the project. The global metallurgical test work programme has identified the preferred processing flowsheet, related processing equipment and reagent consumption for ore treatment. Metallurgical recoveries of approximately 80% for nickel and 82% for copper are highly similar and within 3% of the results presented and utilised in the February 2019 Pre-Feasibility Study. This important information allows for refinement of both capital and operating costs at the process plant for inclusion in the Russian Feasibility Study (a TEO) and subsequent update into western feasibility study level documents.

"The current phase of work could well provide a substantial upgrade to economic potential of the project. Work is underway to determine the ability to generate separate copper and nickel concentrates. A saleable copper concentrate would substantially enhance project revenues as all previous work has been based on nickel only derived revenues. Important information such as the copper and other metal contents and the composition of the included waste minerals within the copper concentrate will enable us to determine the full economic impact on the overall project economics and most importantly, allow for identification of specific copper stream purchasers."

# Sequential Highlights:

- Gipronickel completed test work on a 172 kg sample from the Maly Kurumkon / Flangovy area. In conjunction with previously completed work by Sibsvetmetniproyect, SGS Minerals and Gipronickel, Gipronickel identified a preferred flowsheet to process an industrial scale bulk sample containing the projected life of mine ore types.
- The work on the 172 kg sample and existing historical results has defined the overall mineralogy and host rock chemical composition (predominantly peridotite with lesser peroxinites). Ores contain approximately 5% total sulphides with the main ore minerals of pentlandite (82% of the total nickel note 93.3% of the cobalt occurs in association with the nickel), chalcopyrite (98.6% of the total copper), as well as nickel enriched pyrite and pyrrhotite. Minor ore minerals include cubanite, sphalerite, valerite and violarite. The sulphide ore minerals are present in veinlet and disseminated forms.
- Bench scale sieve sizing analyses based on grinding test work indicate economic minerals are evenly distributed. It was noted that with finer the grind sizes, the amount of slime generated material also increases. Five suppressants and flotation reagents were tested to establish the process flow sheet for completing the test work on the 10 tonne bulk sample.
- Open and locked cycle tests using varied reagents amounts and blends confirm that nickel and copper recoveries increase with increased use of reagents during flotation. The comprehensive results of the bench scale work and that of the historical work, provided key information for the design of the 10 tonne bulk sample processing flowsheet.
- DWT and SAG mill test work have established the parameters for determination of power requirements for the processing plant, especially the high demand comminution (crushing and grinding) circuit.
- Globally, the bench scale test work programmes has established the specifications of plant equipment and consumables required to process six million tonnes of ore per annum. This

information allows for design of the ore processing plant and the related capital and operating cost considerations.

- Processing of the ten tonne representative bulk sample included nine test configurations (equipment and reagents being varied). From this information, a nickel recovery curve was generated and retention times within various areas of the plant were identified. Key information to sizing of major items of equipment for the plant.
- Based on the flowsheet and varied parameters used in processing of the ten tonne bulk sample, the projected recovery of all sulphides to the bulk concentrate is approximately 84.9%. These sulphides contain 79.5% (80.2% PFS) of the nickel and 82.9% (79.9% PFS) of the copper.
- The composition of the bulk concentrate is 7.9% nickel (9.7% PFS), 2.1% copper (2.6% PFS), 0.163% cobalt (0.13% PFS) with slag forming contents of 15.0% S (14.8% to 17.4% PFS), 3.0% Al<sub>2</sub>O<sub>3</sub> (3.4% to 4.9% PFS), 15.0% MgO (14.3% to 16.6% PFS), and 22.4% Fe (18.9% to 22.0% PFS). Gipronickel's selected flowsheet recovers approximately 20% to 25% more concentrate than projected in the PFS. To obtain a 9.7% nickel grade in the concentrate, increased reagent usage can be utilised. In this case, nickel recovery would be reduced to approximately 76.5%.
- All previous metallurgical work has been conducted on the basis of generating a single all metal bulk concentrate. Off take agreements available to the Company during the compilation of the PFS allowed for nickel payable contents only, nothing else. Test work to generate a payable copper concentrate is now underway. In the February 2019 PFS, a total of 137,000 tonnes of copper were projected to be contained within the nickel concentrate. At a copper price of \$2.50 per pound (\$5,510 per tonne), the total value of copper contained in the concentrate would be in the order of US\$750 million before consideration of the site costs related to generation of a separate copper stream, its transport from the site to a copper smelter and the terms that would be applied by the smelting company.

### Market Abuse Regulation (MAR) Disclosure

Certain information contained in this announcement would have been deemed inside information for the purposes of Article 7 of Regulation (EU) No 596/2014 until the release of this announcement.

#### **Enquiries:**

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#### **Notes to Editors**

The information contained in this announcement has been reviewed and approved by the CEO of Amur, Mr. Robin Young. Mr. Young is a Geological Engineer (cum laude), a Professional Geologist licensed by the Utah Division of Occupational and Professional Licensing, and is a Qualified Professional Geologist, as defined by the Toronto and Vancouver Stock Exchanges and a qualified person as defined by the AIM Rules for Companies. An employee of Amur for 15 years, previously Mr. Young was employed as an independent consultant with Fluor Engineers, Fluor Australia and Western Services Engineering, Inc. during which time his responsibilities included the independent compilation of resources and reserves in accordance with JORC standards. In addition, he was the lead engineer and participant of numerous studies and projects requiring the compilation of independent Bankable Studies utilised to finance small to large scale projects located worldwide. Mr. Young is responsible for the content of this announcement.

For further information, and Company updates see the Company website at <u>www.amurminerals.com and</u> twitter page @amur minerals.