PRESS RELEASE

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Concord, New Hampshire JAG – TSX/NYSE

Jaguar Mining Provides Q1 2010 Update of Operations

Jaguar Mining Inc. ("Jaguar" or "the Company") (JAG: TSX/NYSE) provided a summary today of its preliminary Q1 2010 operating performance. All figures are in U.S. dollars unless otherwise indicated. See recent operating highlights below.

Consolidated Operations (Turmalina and Paciência)

- In Q1 2010, the Company produced 31,223 ounces of gold at an average cash operating cost of $595 per ounce compared to 32,868 ounces at an average cash operating cost of $409 per ounce during the same period last year, a production decrease of 5%. Beginning in Q1 2010, the Company adopted a definition of "to the refinery" for measuring gold production. As a result of this change, the Q1 2010 production figure does not include gold in-process or in unfinished inventory as was the case for quarterly production data prior to Q1 2010.

  Q1 2010 cash operating costs were significantly impacted by a much stronger Brazilian real in early-2010 compared to the previous year. The exchange rate in Q1 2010 averaged R$1.80 per $1.00 compared to R$2.32 per $1.00 in Q1 2009 or approximately 30% higher, which caused an increase in cash operating costs of approximately $120 per ounce.

  In addition, cash operating costs and production were slightly impacted by lower grades at Turmalina and downtime related to scheduled maintenance at both Turmalina and Paciência. As a result of lower production, the allocation of fixed costs related to operations also contributed to the increase of costs per ounce during Q1.

- The Q1 2010 average feed grade was 3.74 g/t compared to 4.19 g/t during Q1 2009. Feed grades have been improving slightly since Q4 2009 and are expected to continue to improve based on the detailed 2010 mine plan. Feed grades for the remainder of 2010 are expected to average between 3.8 g/t to 4.1 g/t, which includes lower grades into the Caeté Plant during the commissioning phase.

- Q1 2010 gold sales totaled 37,289 ounces at an average price of $1,102 compared to 35,879 ounces at an average price of $928 per ounce in Q1 2009.

- Q1 2010 gold production and cash operating costs were generally on target with the Company's 2010 plan. Q1 was expected to have the year's lowest production and grade and the highest cash operating costs. The Company's actual Q1 2010 cash operating margin of $507 per ounce exceeded the Company's expected cash operating margin of $412 per ounce.

- Consolidated underground mine development for Q1 2010 totaled 4.5 km, considerably above Q1 2009's level of 2.3 km.

Mr. Daniel R. Titcomb, Jaguar's President and CEO stated, "Our Q1 results were roughly in-line with our expectations as we worked around major scheduled maintenance items and sequencing issues underground which delayed short-term access to higher-grade zones. What isn't fully revealed in the Q1 results is the progress we made during Q1 underground to access these higher-grade zones, particularly at Turmalina and at the new Palmital Mine in the Paciência region, which makes us confident we will reach this year's production and cash operating cost targets."

Mr. Titcomb further stated, "Recently our operating team successfully tested Turmalina's milling rate at more than 25% above our 2007 plan of 700,000 tonnes per year; a very positive development which is important to achieving our 2011 and beyond production targets. Tests conducted on ore samples from the Paciência ore zones produced very favorable results with respect to implementing new roller press technologies, which could significantly reduce capital expenditures tied to growth plans for the Paciência Operation. Jaguar believes that the foundation for achieving our growth plans will be in-place shortly as the Caeté Plant is nearing completion."

Turmalina Operations

In Q1 2010, Turmalina produced 16,987 ounces of gold at an average cash operating cost of $548 per ounce compared to 18,770 ounces of gold at an average cash operating cost of $349 per ounce in Q1 2009. Other than exchange rates, which caused an increase in cash operating costs of $104 per ounce compared to Q1 2009, cash operating costs were higher in Q1 2010 due to: (a) lower grades brought about by higher than planned dilution, (b) distributing fixed operating costs over fewer ounces and (c) costs related to a scheduled 10-day maintenance.

The following was achieved at Turmalina during Q1 2010:

- Mine production totaled 150,102 tonnes at an average run-of-mine ("ROM") grade of 4.14 grams per tonne compared to 128,861 tonnes of ore at a ROM grade of 5.47 grams per tonne in Q1 2009.
- Ore processed through the mill totaled 150,733 tonnes at an average feed grade of 4.16 grams per tonne compared to 120,173 tonnes at an average feed grade of 5.38 grams per tonne in Q1 2009.
- The plant recovery rate averaged 88% in Q1 2010 compared to 90% in Q1 2009.
- Mine development totaled 1.3 km.

Paciência Operations

In Q1 2010, Paciência produced 14,236 ounces of gold at an average cash operating cost of $650 per ounce compared to 14,099 ounces of gold at an average cash operating cost of $490 per ounce in Q1 2009. Cash operating costs were higher primarily due to (a) a significantly stronger Brazilian real, which caused an increase in cash operating costs of $147 per ounce compared to Q1 2009 (b) mining costs tied to the ramp-up of operations from the NW1 zone and (c) costs related to a 10-day scheduled maintenance. These factors offset the higher grades achieved at the St. Isabel Mine.

The following was achieved at Paciência during Q1 2010:

- Mine production from the St. Isabel Mine totaled 84,721 tonnes at an average ROM grade of 3.18 grams per tonne compared to 110,663 tonnes of ore at an average ROM grade of 2.86 grams per tonne in Q1 2009.
- Mine production from the Pilar Mine averaged 41,243 tonnes at an average ROM grade of 3.87 grams per tonne compared to 38,673 tonnes at an average grade of 4.35 grams per tonne in Q1 2009.
- Mine production from the Palmital Mine averaged 17,296 tonnes at an average ROM grade of 4.28 grams per tonne. The Palmital Mine was not in operation in Q1 2009.
- Mine production from the NW1 Zone averaged 18,418 tonnes at an average ROM grade of 3.20 grams per tonne. The NW1 Zone did not produce ore in Q1 2009.
- Ore processed through the mill totaled 147,847 tonnes with an average feed grade of 3.32 grams per tonne compared to 154,737 tonnes with an average feed grade of 3.26 grams per tonne in Q1 2009.
- The plant recovery rate averaged 93% in Q1 2010 compared to 91% the prior year.
- Mine development at the St. Isabel Mine totaled 0.9 km, 0.6 km at the NW1 Zone, 0.5 km at the Palmital Mine and 0.6 km at the Pilar Mine during Q1 2010.

Caeté Project

The construction of the Caeté Project continues to move on-schedule and is nearing completion. Commissioning is slated to begin in May 2010 using development ore from the adjacent Roça Grande Mine. During Q1 2010, 0.6 km of mine development was completed at the Roça Grande Mine.

About Jaguar Mining

Jaguar is one of the fastest growing gold producers in Brazil with operations in a prolific greenstone belt in the state of Minas Gerais and has plans to develop the Gurupi Project in northern Brazil in the state of Maranhão. Jaguar is actively exploring and developing additional mineral resources at its approximate 575,000-acre land base in Brazil. The Company has no gold hedges in place thereby providing the leverage to gold prices directly to its investors. Additional information is available on the Company's website at www.jaguarmining.com.

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Forward Looking Statements

This press release contains forward-looking statements, within the meaning of the U.S. Private Securities Litigation Reform Act of 1995 and applicable Canadian securities laws, concerning the Company's objectives, such as meeting estimated 2010 gold production and cash operating costs projections, the implementation of new technologies at the Paciência, expected feed grades for 2010 and the commencement of commissioning operations at the Company's Caeté Project. These forward-looking statements can be identified by the use of the words "intends", "plans", "expects", "expected" and "will". Forward-looking statements involve known and unknown risks, uncertainties and other factors, which may cause the actual results, or performance to be materially different from any future results or performance expressed or implied by the forward-looking statements.

These factors include the inherent risks involved in the exploration and development of mineral properties, the uncertainties involved in interpreting drilling results and other geological data, fluctuating gold prices and monetary exchange rates, the possibility of project cost delays and overruns or unanticipated costs and expenses, uncertainties relating to the availability and costs of financing needed in the future, uncertainties related to production rates, timing of production and the cash and total costs of production, changes in applicable laws including laws related to mining development, environmental protection, and the protection of the health and safety of mine workers, the availability of labor and equipment, the possibility of labor strikes and work stoppages and changes in general economic conditions. Although the Company has attempted to identify important factors that could cause actual actions, events or results to differ materially from those described in forward-looking information, there may be other factors that cause actions, events or results to differ from those anticipated, estimated or intended.

These forward-looking statements represent our views as of the date of discussion. The Company anticipates that subsequent events and developments may cause the Company's views to change. The Company does not undertake to update any forward-looking statements, either written or oral, that may be made from time to time by or on behalf of the Company subsequent to the date of this discussion except as required by law. For a discussion of important factors affecting the Company, including fluctuations in the price of gold and exchange rates, uncertainty in the calculation of mineral resources, competition, uncertainty concerning geological conditions and governmental regulations and assumptions underlying the Company's forward-looking statements, see the "CAUTIONARY NOTE" regarding forward-looking statements and "RISK FACTORS" in the Company's Annual Information Form for the year ended December 31, 2009 filed on System for Electronic Document Analysis and Retrieval and available at http://www.sedar.com and the Company's Annual Report on Form 40-F for the year ended December 31, 2009 filed with the United States Securities and Exchange Commission and available at www.sec.gov.

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