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## **PRESS RELEASE**

May 19, 2011  
Concord, New Hampshire

2011-10  
JAG - TSX/NYSE

### **Jaguar Mining Provides Exploration Update** *Celso Frizzo Named Chief Geologist*

Jaguar Mining Inc. (“Jaguar” or the “Company”) (**JAG: TSX/NYSE**) provides an update of its Q1 2011 exploration program at its operating properties and exploration concessions in the states of Minas Gerais and Maranhão, Brazil.

#### **Overview**

Jaguar’s exploration effort during Q1 2011 focused on targets in and around its existing operations as follows: ore bodies A and B at the Turmalina mining complex, NW1 and NW3 targets at the Paciência mining complex and at the Pilar Mine at the Caeté mining complex. Significant intercepts of high grade gold mineralization have been confirmed at numerous zones in these brownfield targets. Jaguar also conducted exploration activities of the oxide zones at the Faina and Pontal targets near Turmalina. The Company has begun limited mining from these oxide zones and is processing the ore at the Turmalina Plant.

Commenting on the exploration results, Mr. Celso Frizzo, Jaguar’s recently named Chief Geologist (detailed below), stated, “Given the large and diverse mineral concession package Jaguar holds in a prolific mining district in southern Brazil, we are confident the Company has the potential to significantly increase its resource and reserve base beneath and near our existing mines. The very encouraging results from our 2010 and early-2011 exploration programs support this belief. Equally important, the prospects at the Gurupi Project in northern Brazil, where we are just now beginning a 30,000 meter drill program to further expand our large resource base, could sharply expand the scope of this Project.”

#### **Underground Resource Drilling Program**

##### **Turmalina Mining Complex**

###### *Ore Bodies A and B*

As part of a 5,800-m resource expansion drilling program, the Company has conducted deep drilling from collar position stationed along a 370 m exploration drift located at Level 4, which is 370 m above sea level (“asl”). The purpose of this program is to establish the continuity of the mineralized zone along the 60° dipping, northeast-plunging structure, down to Level 10, 400 m below Level 4.

During Q1 2011, 7 drill holes were completed totaling 930 m. Presently, 60% of the planned 370 m exploration drift has been completed and a further 140 m extension is under development.

Drilling results returned very encouraging intercepts for ore bodies A and B at increasing depths, confirming the down plunge continuity of the ore zones. The most significant intercepts from this new drilling program are presented below:

<b>Turmalina Mine Drill Results</b>					
<b>Hole</b>	<b>From (m)</b>	<b>To (m)</b>	<b>Au (g/t)</b>	<b>Length (m)</b>	<b>Ore Body</b>
FTS420	28.00	30.00	2.83	2.00	B
	34.00	35.00	5.58	1.00	
	113.50	130.00	<b>7.56</b>	<b>16.70</b>	A
FTS421	17.80	18.65	<b>8.43</b>	<b>0.85</b>	B
	22.90	23.80	4.02	0.90	
	79.30	84.00	<b>10.12</b>	<b>4.30</b>	A
	98.00	103.20	<b>4.34</b>	<b>5.00</b>	
FTS422	16.40	17.40	1.85	1.00	B
	71.30	73.30	<b>33.86</b>	<b>2.00</b>	A
	93.20	95.20	<b>5.78</b>	<b>2.00</b>	
FTS423	39.40	40.90	<b>7.69</b>	<b>1.50</b>	B
	114.10	116.00	<b>8.85</b>	<b>1.90</b>	A
	118.80	119.80	<b>8.02</b>	<b>1.00</b>	
	143.30	147.00	1.32	3.70	

*Note: Not all holes represent true width.*

Jaguar plans to update its NI 43-101 compliant resource estimate for the Turmalina mining complex during early 2012, which the Company expects will add resources and allow for future expansion of the current mine plan. This resource estimate will consolidate additional drill data acquired during the remainder of 2011.

### **Paciência Mining Complex**

#### *NW3 Target (Bahú II)*

The current exploration program is focused on the NW3 Target located 4 km northwest of the Santa Isabel Mine, hosted by the same São Vicente shear zone corridor containing five of the Company's priority exploration targets as well as two of the most prolific underground gold mines in Brazil.

During Q1 2011, a drilling program consisting of 16,980 m in 135 holes was completed. Encouraging results confirmed the down plunge continuity of the mineralization from a historical pit-bottom outcrop to over 200 m beneath surface. The mineralized structure is open at depth.

The most significant intercepts from this drilling program are presented below.

<b>NW3 Target (Bahú II) Drill Results</b>				
<b>Hole</b>	<b>From (m)</b>	<b>To (m)</b>	<b>Au ( g/t)</b>	<b>Length (m)</b>
FBA081	147.50	149.00	<b>9.06</b>	<b>1.50</b>
FBA084	15.30	17.25	<b>4.11</b>	<b>1.95</b>
FBA087	14.15	14.75	<b>21.75</b>	<b>0.60</b>
FBA092	48.00	49.00	<b>7.22</b>	<b>1.00</b>
FBA100	9.6	12.6	2.79	3

FBA103	46.30	48.70	2.40	2.40
	137.00	138.75	<b>4.88</b>	<b>1.75</b>
FBA109	141.10	147.20	<b>8.76</b>	<b>6.10</b>
	153.15	156.10	<b>7.76</b>	<b>2.95</b>
FBA111	135.30	139.30	<b>26.99</b>	<b>4.00</b>
	143.50	149.75	<b>4.54</b>	<b>6.25</b>
FBA118	3.00	8.70	2.21	5.70
FBA122	166.20	170.00	1.52	3.80
FBA124	0.00	5.00	<b>2.79</b>	<b>5.00</b>
FBA128	57.80	64.20	1.67	6.40
FBA146	174.55	177.55	<b>4.88</b>	<b>3.00</b>
	189.10	195.25	<b>9.53</b>	<b>6.15</b>

*Note: Not all holes represent true width.*

#### *Santa Isabel and NW1 Mines*

As part of the Company's resource expansion program, additional deep drilling from an underground exploration drift developed from Level 4 at the Santa Isabel Mine was initiated during Q1 2011. From collar positions along a 530 m exploration drift at 775 m asl, the drilling program is aimed at delineating an ore panel spanning 150 m along the mineralized structure down to Level 7.

Additional underground drilling was conducted in the NW1 Zone during Q1 2011. This program focused on Level 2 (850 m asl) and aimed at delineating a new ore panel 50 m below present mining. A total of 2,610 m were drilled in 29 holes. As anticipated, results confirm the plunge extension of high grade shoots.

The most significant intercepts from the Q1 2011 drilling program at NW1 are presented below.

<b>NW1 - Drill Results</b>				
Hole	From (m)	To (m)	Au (g/t)	Length (m)
MSS079	25.2	28.15	<b>3.55</b>	<b>2.95</b>
	30.25	32.25	2.30	2.00
MSS080	2.40	4.00	1.81	1.60
	20.15	27.65	<b>21.54</b>	<b>7.50</b>
	23.15	25.20	<b>51.32</b>	<b>2.05</b>
MSS081	0.00	1.55	1.98	1.55
	6.55	9.45	<b>7.24</b>	<b>2.90</b>
	37.80	38.80	<b>8.05</b>	<b>1.00</b>
MSS082	13.25	14.25	1.17	1.00
MSS083	19.85	31.55	<b>3.99</b>	<b>11.70</b>
MSS084	20.45	37.40	<b>14.42</b>	<b>16.95</b>
	20.45	21.45	<b>92.83</b>	<b>1.00</b>
	30.45	31.45	<b>108.67</b>	<b>1.00</b>
MSS085	24.25	26.25	3.94	2.00
	28.25	29.25	1.87	1.00
	31.25	32.25	1.02	1.00
	41.10	46.00	1.92	4.90

MSS086	18.20	32.20	<b>3.43</b>	<b>14.00</b>
	35.30	36.30	1.89	1.00
MSS087	10.00	12.00	<b>5.02</b>	<b>2.00</b>
	54.20	58.20	2.39	4.00
MSS088	26.55	27.60	1.11	1.05
MSS089	16.30	17.30	1.51	1.00
	23.30	24.35	2.19	1.05
MSS090	11.85	12.85	1.21	1.00
	15.85	16.85	1.50	1.00

*Note: Not all holes represent true width.*

Jaguar intends to update its NI 43-101 compliant resource estimate for the Paciência mining complex by early 2012.

### **Caeté Mining Complex**

#### *Pilar Mine*

A deep drilling program consisting of 8,200 m was initiated in late-Q4 2010 at the Pilar Mine. Drilling was conducted from collar positions along a 200 m exploration drift on Level 3 at 545 m asl. The objective of the program is to confirm the continuity of the structure down to Level 11, approximately 860 m from surface.

In Q1 2011, 4,095 m were completed in 18 holes from this new exploration drift. Approximately 80% of the planned 200 m exploration drift has been completed and another 40 m of development is underway to provide the designed step-out collar positions.

Significant intercepts of gold mineralization have been identified at depth, confirming the down plunge continuity to 120 m below current mining levels.

The most significant intercepts from the Q1 2011 drill program at the Pilar Mine are presented below:

<b>Pilar Mine - Drill Results</b>				
<b>Hole</b>	<b>From (m)</b>	<b>To (m)</b>	<b>Au (g/t)</b>	<b>Length (m)</b>
PPL-Ex 27	136.70	137.70	<b>15.60</b>	<b>1.00</b>
PPL-Ex 28	134.40	137.80	<b>8.69</b>	<b>3.40</b>
	142.15	146.15	<b>5.85</b>	<b>4.00</b>
	160.50	163.25	0.70	2.75
PPL-Ex 29	126.50	127.50	1.05	1.00
	168.60	169.60	4.17	1.00
PPL-Ex 30	118.30	119.30	1.30	1.00
	151.40	152.40	1.08	1.00
PPL-Ex 31 (Partial Results)	142.35	147.70	<b>4.94</b>	<b>5.35</b>
	157.60	162.40	<b>4.77</b>	<b>4.80</b>
PPL-Ex 33	156.00	159.80	<b>5.21</b>	<b>3.80</b>
PPL-Ex 34	223.45	224.45	1.21	1.00
PPL-Ex 35	166.70	168.30	1.74	1.60
	173.55	177.45	1.39	3.90

	189.60	193.30	<b>3.63</b>	<b>3.70</b>
	275.30	279.30	1.45	4.00
PPL-Ex 36	133.65	135.65	2.03	2.00
PPL-Ex 37	133.00	134.25	1.84	1.25
PPL-Ex 38	139.75	144.75	<b>5.71</b>	<b>5.00</b>
	155.75	156.65	<b>22.50</b>	<b>0.90</b>
	160.60	161.40	1.16	0.80
	163.00	164.00	1.28	1.00
	173.65	174.95	1.85	2.95
PPL-Ex 39	177.25	180.25	2.43	3.00
	174.50	181.70	2.08	7.20
	191.30	192.30	1.04	1.00
PPL-Ex 40	194.10	195.75	<b>6.39</b>	<b>1.65</b>
	178.55	187.55	1.80	9.00
PPL-Ex 41	195.30	198.05	<b>6.31</b>	<b>2.75</b>
	188.30	189.30	<b>6.88</b>	<b>1.00</b>
	191.90	195.70	2.04	3.80
	197.70	198.70	1.17	1.00
PPL-Ex 42	204.70	210.40	<b>3.70</b>	<b>5.70</b>
	169.00	170.90	2.68	1.90
	192.60	193.60	8.00	1.00
	197.40	198.40	1.29	1.00
	205.00	208.75	<b>5.29</b>	<b>3.75</b>

*Note: Not all holes represent true width.*

The Company intends to update the NI 43-101 compliant resource estimate for the Caeté mining complex during early 2012, which will include additional drilling completed during the remainder of 2011.

### **Near Mine Surface Exploration Drilling**

#### **Turmalina**

##### *Faina and Pontal Targets*

Faina and Pontal are two separate targets located less than 4 km northwest of the Turmalina plant site. Mineralization at both areas is similar in style and characterized by silicified hydrothermal alteration zones and quartz lenses containing disseminated and massive sulfides emplaced in a sequence of metamorphic volcanogenic schists. Unlike the mineralization presently being mined at Turmalina (Ore bodies A, B and C), the sulfide ore mineralogy from Faina and Pontal are refractory in nature, requiring metallurgical test work to define additional process steps to enhance their treatability at the Turmalina Plant.

The Faina Target has been delineated over a 700 m area of mineralization along strike, 200 m in width and 500 m along a vertical extension. The Pontal Target comprises two drilling targets, on mineralized structures LB-1 and LB-2, 600 m along strike by 100 m width and 300 m vertical extension.

The Company's 2011 exploration program is focused on delineating the limits of the oxide resources through approximately 3,000 m of follow-up diamond drilling at Faina and Pontal. The effort is expected to begin during mid-2011.

<b>Faina and Pontal Targets - Q1 2011 Exploration Program</b>			
Target	Activity	Meters	Samples
Faina	Channel samples	456	472
	Trenches	446	478
	Diamond drilling		675
Pontal (LB2)	Trenches	104	105
	Diamond drilling	132	58

Jaguar's historical mineral resources at the Faina Target are based on surface and underground drilling carried out by a predecessor, Mineração Morro Velho Ltda. ("MMV"), a subsidiary of Anglo American at the time. MMV also completed an exploration drift to expose the central core of the mineralized zone, which allowed for a (non-NI 43-101 compliant) preliminary resource estimate of approximately 240,000 ounces of gold in sulfide ore, down to 500 m from surface. A considerable portion of the near-surface oxide ore was mined out by MMV to an average depth of 25 m.

To-date, Jaguar has completed a total of 19,530 m of diamond core drilling in 84 holes to an average depth of 250 m from surface. Five holes were aimed at deep pierce points on the mineralized structure in order to confirm continuity at depth. A total of 5,670 diamond drill core samples were taken and assayed for gold. Very significant and continuous mineralized intervals were intercepted demonstrating continuity of the mineralization both along strike and at depth.

During Q1 2011, the Company conducted an intensive trenching program in the northern and southeastern sectors of the target area to identify economic mineralized oxide zones not mined by MMV, which could be processed at the nearby Turmalina carbon-in-pulp processing plant. Results from the trenching program are presented below:

<b>Faina Target</b>		
<b>Trench</b>	<b>Au (g/t)</b>	<b>Length (m)</b>
TFN187	2.32	2.80
TFN187	<b>3.19</b>	<b>4.00</b>
TFN188	1.51	3.00
	2.39	4.00
	<b>5.09</b>	<b>4.00</b>
TFN198	<b>6.28</b>	<b>1.00</b>
	<b>6.53</b>	<b>1.00</b>
	1.46	2.00
TFN199	3.14	1.80
TFN200	1.13	1.00
	1.34	1.00
	2.27	1.70

*Note: Not all holes represent true width.*

The Pontal Target is subdivided into two zones: LB-1 and LB-2. The LB-1 near-surface oxidized zone was previously mined by MMV in a small open pit. At LB-2, no known exploration drilling was conducted and the oxide and sulfide zones remain untouched.

During 2010, 28 holes totaling 6,417 m were completed on the LB-1 zone, as well as 24 holes totaling 2,294 m on the LB-2 zone. A total of 5,430 diamond core samples was taken and assayed for gold.

During Q1 2011, the Company conducted additional drilling and surface trenching on both the LB-1 and LB-2 zones with the following results:

<b>Pontal LB-2 Target</b>				
	From (m)	To (m)	Au ( g/t)	Length (m)
<b>Trench</b>				
TPT005	8.00	10.00	2.36	2.00
<b>Drilling</b>				
PTL089	32.20	36.15	2.79	3.95
PTL090	23.50	25.60	2.74	2.10
	40.60	42.30	1.77	1.70

*Note: Not all holes represent true width.*

Both LB-1 and LB-2 mineralized structures demonstrated continuity along strike and at depth. Gold bearing mineralization was intercepted to a depth of 280 m beneath surface at the LB-1 zone and 120 m beneath surface at the LB-2 zone. These structures remain open at depth.

The Company intends to produce a NI 43-101 compliant resource estimate for the Faina and Pontal targets during the second half of 2011.

### **Gurupi Project**

In early-Q2 2011, a 30,000 m resource infill and expansion drill program was initiated for Gurupi's Cipoeiro and Chega Tudo deposits as well as in surrounding areas where historical exploration has taken place.

A detailed re-interpretation of the existing Cipoeiro and Chega Tudo geological dataset was undertaken in order to refine this new drilling program. A total of six diamond drill rigs are now operating full time. This effort is primarily focused on the up-strike mineral targets, which Jaguar expects to identify and upgrade to NI 43-101 standards. The Company expects a portion of these new resources will be reported during the second half of 2011, with the balance reported in early 2012.

### **Jaguar Appoints Celso Frizzo Chief Geologist**

The Company has appointed Mr. Celso Frizzo Chief Geologist in charge of Jaguar's exploration in Brazil. Mr. Frizzo joined Jaguar in 2005 as Exploration Manager. He has a distinguished 32-year exploration career in Brazil including 20 years with Anglo American, 3 years with Gold Fields and 4 years with Kinross, where he held the position of exploration manager for the Gurupi Project.

Commenting on Mr. Frizzo's appointment, Mr. Daniel R. Titcomb, Jaguar's President and CEO stated, "We are very fortunate to have a seasoned professional of Celso's caliber leading our geological teams. We are confident that under his direction, our exploration efforts will continue to produce significant and measurable results that will re-value the Company."

Mr. Titcomb continued, "A sincere thanks goes to Mr. Jaime Duchini who served as Jaguar's Chief Geologist since the Company's inception, leading the geological teams in building a substantial resource

base for the Company. We are grateful Mr. Duchini, with his extensive knowledge of Brazilian geology, will continue to serve as a senior advisor within Jaguar to assist Celso in our growing exploration efforts.”

The drill results disclosed in this press release were reviewed by Ivan C. Machado, M.Sc., P.E., P.Eng., Principal of TechnoMine Services, LLC. Mr. Machado serves as Jaguar’s independent Qualified Person in accordance with NI 43-101. SGS Geosol Laboratories of Belo Horizonte, Minas Gerais provided independent sample preparation and assay services, using standard industry practices. There has not been sufficient exploration to define a mineral resource based on these drill results and it is uncertain if further exploration will result in mineral resources.

## **About Jaguar**

Jaguar is a junior gold producer in Brazil with operations in a prolific greenstone belt in the state of Minas Gerais. Jaguar is also engaged in developing the Gurupi Project in the state of Maranhão. Based on its development plans, Jaguar is one of the fastest growing gold producers in Brazil. The Company is actively exploring and developing additional mineral resources at its 256,300-hectare land base. Additional information is available on the Company's website at [www.jaguarmining.com](http://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 potential to significantly increase its resource and reserve base beneath and near existing mines, its ability to complete NI 43-101 technical reports for its Turmalina, Paciência and Caeté mining complexes by early 2012 and identify and upgrade resources at the Gurupi Project during the second half of 2011 with the balance reported in early 2012. 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 view 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, 2010 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, 2010 filed with the United States Securities and Exchange Commission and available at [www.sec.gov](http://www.sec.gov).

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