



QUARTERLY ACTIVITIES REPORT – DECEMBER 2009

Highlights of the Second Quarter

Exploration

- 1,585 m of diamond core drilling completed during the quarter at the Porto Estrela Prospect Apiacas, for a total to date of 2,124 metres in the planned minimum 3,000m initial drilling program
- New gold intercepts at Porto Estrela prospect include 3m@14.7g/t within a wider interval of 9m@7.8g/t from 79 m in drillhole PEDDH007
- Substantial interval of disseminated low gold grade at Porto Estrela include 20m@0.93g/t from 5m also in hole PEDDH007
- Chip sample from “Ceara” garimpo of a 1-2cm wide Quartz-sulphide veinlet within Porto Estrela prospect return gold assays up to 500g/t
- Six trenches from a total of 16 exploration trenches which were excavated, have returned gold assays > 1g/t and up to 16.4 g/t of gold
- Initial chip sample from quartz-sulphide veins return gold assays up to 24.5 g/t from the “Cabelo” Prospect, 20kms west from Porto Estrela – Apiacas

Mineral Drilling Division

- Work in hand now exceeds R\$ 4.8 million (AUD \$3.2M)
- Revenue for the quarter was 1.22 Million AUD, down on previous quarter (1.363 M) due to employment of one diamond rig on the company’s Alta Floresta project.
- Strong end to the quarter with work being secured for the company’s in country drilling fleet plus three hired rigs for the 3rd quarter.

Corporate

- Completion of a placement and initiation of rights issue to retire secured debt, assist the growth of GeoLogica, advance the Company’s prospective exploration portfolio and provide general working capital

EXPLORATION ACTIVITIES

Background

The Alta Floresta Project is located within the Southern Amazon Craton in the northern portion of Mato Grosso State in central west Brazil. The Project comprises three discrete groups of tenements covering approximately 1,450km² within a 330km long portion of the Alta Floresta gold belt, where government records estimate past production in excess of five million ounces of gold. The tenement groups are located in the Peixoto/Novo Mundo, Paranaíta and Apiacas regions respectively.

Activities in this quarter focused only in the Apiacás district with drilling at the Porto Estrela prospect and initial mapping and chip sampling in recently found high gold-grade prospects, Ceara, Satellite, Porcão and Cabelo.

Porto Estrela Prospect

The Porto Estrela Prospect is located in the western Apiacas District of Cougar's Alta Floresta Gold Project. The overall target area at the Porto Estrela Prospect is 6km long and +500m across strike. Four large areas of artisanal gold mining ("Garimpos") are located within the central portion of this area. Previous gold production from these Garimpos, plus nearby smaller Garimpos, is estimated to be in excess of one (1) million ounces of gold.

Geology of the prospect consists of a WNW-trending coeval granitic suite where the least evolved and older rocks (mafic and magnetite rich-granites) surround a central nucleus of the most evolved and younger rocks (syenogranites and Si-rich granites). Magmatic late phases like aplites and quartz-rich pegmatites have been intersected as dykes intruding the central nucleus.

Subsequent deformation has produced narrow shear zones, with two main directions identified to date; WNW and NE. Resulting mylonites may be accompanied by quartz veins or, strong local sulphide rich veins are developed.

Mineralization at Porto Estrela prospect is of two types. Type 1 is related to the intrusive suite itself and consists of high-grade gold associated with the late magmatic phases and low-grade disseminated gold which occurs close to or may straddle the contact between least and more evolved granitic units. Type 2 is a high-grade gold mineralization associated with the shear zones and late quartz-sulphide veins.

Trenching program:

Work during the previous quarter at Porto Estrela included the excavation of 16 trenches for a total of 450 linear meters. The trench length varied from 6 to 30 meters and 1 m long horizontal channel samples were collected along the complete length of each trench. Results received during the quarter showed six trenches that returned gold values higher than 1 g/t of gold and as high as 16.5 g/t. The best results were found close Piauí and Bat targets with respectively [6m@0.83g/t](#) and [8m@1.14g/t](#) of gold.

Drilling Program:

The drilling program aimed to test targets defined from field work undertaken earlier in the year, namely targets at : Piauí, Goiano, Jacaré, Bat, East Piauí and Polaco.

During this quarter nine drill holes were completed, logged, sampled and sent for assaying. The results from the first round of sampling and assaying show that additional sampling and assaying are required to fully examine the holes for the presence of lower grade gold values. A total of 2,124 m were drilled and 740 core samples were submitted for assaying. For holes PEDD001, 002, 003, 006, 007, 008, 009, 011, the assays have already returned and commented in earlier releases. Table 1 contains the main gold assay intersections. Figure 1 shows the location of all the drilling and details the hole parameters.

Two targets (Piauí and Bat) out of the six tested, returned encouraging results which strongly support the primary gold potential of the Porto Estrela prospect. For the Piauí target the best intersection returned [5m@2.7g/t](#) from 75 meters in PEDDH001. In this interval, disseminated and banded pyrite along with minor sphalerite is hosted by a narrow WNW striking shear zone. A similar but lower grade intersection was encountered in a sheared section in drillhole PEDDH002, west of hole 001

Drill hole PEDD003 aimed to intersect in depth a shallow high-grade structure (~10g/t of gold) observed in a small open pit at a “garimpeiro” work (Jacare Target). The hole comprises a shallow section (~15 m) of mafic granite while the rest of the hole consists of a syenogranite. At ~70m, the expected depth for intersecting the mineralized structure, a quartz vein returned 0.7 g/t of gold. No other interesting interval was found in this hole which ended up at 163 m deep.

Holes PEDDH004 and 005 were abandoned due to drilling difficulties. Drill Hole PEDDH006 aimed to check the existence of a possible mineralization structure to the north of the Jacare Target. The entire hole ran through the least evolved mafic granite with no signs of mineralization.

The Bat target was drilled by three drill holes PEDD007, 008 and 010. Drill holes 007 and 008 intersected a section of mafic granites at shallow depth, which pass abruptly to a longer Si-rich bluish granite section down to 75 to 100 and then to a syenogranite down to the end of the hole. Drill hole 007 returned a shallow intersection of [20m@0.93g/t](#) from 5 m and high-grade intersection of [9m@7.8g/t](#) from 79 meters, including [3m@14g/t](#). Parts of this intersection, from 81 to 85 m returned 40g/t of Mo. The shallower intersection consists of several sparse and fine bands of disseminated pyrite which straddles the contact between the mafic and the Si-rich granites. The deeper and high-grade intersection consists of large

blebs and coarse-grained aggregates of pyrite and molybdenite as well as fine visible gold which are hosted in a pegmatite/aplite section.

APIACAS PROJECT
Porto Estrela Prospect

Hole No.	Intercept Thickness (m)	Interval From-To	Au grade g/t
PEDDH007	20	5-25m	0.93
	9	79-88m	7.83
Including	3	80-83m	14.7
	8	88-96m	0.26
PEDDH008	6	27-33m	0.40
	12	42-54m	0.40
	12	102-114m	0.45

Table 1: Drillhole intersections – Holes PEDDH007 and 008

Drill hole PEDD008 was drilled 20m behind and below hole PEDDH007 and compares very well in terms of geology with hole PEDD007. Although the shallower section has not yet been completely sampled and assayed, this hole returned [6m@0.4g/t](#) from 27 m and [12m@0.4g/t](#) of gold from 42 m, the only two sections sampled and assayed. These two intersections comprise sparse and thin bands of fine-grained pyrite which are straddling the contacts between the mafic and Si-rich granites. The interval between 34 and 41 meters is currently being sampled and assays should be available in four or five weeks. A deeper section of aplite/pegmatites, between 102 and 114 meters, which corresponds to the high-grade gold section in the hole 007, returned [12m@0.45g/t](#) of gold. This can be interpreted as a variation of grade or a result of a coarse gold distribution in this mineralization. Hole 007 contained visible gold. Duplicate samples are being sent to check these initial assay results.

Drill hole PEDD010 was aimed to drill approximately normal to the section of holes 007 and 008 intersecting the main area at about 75 m to investigate the geometry of the target. The hole did not hit the pegmatite/aplite section which suggests this body is likely to be tabular and possibly striking nearly parallel to Hole 010. The shallower section of Hole 010 consists mostly of Si-rich granite which is now being sampled to confirm the possible WNW extension of the low-grade disseminated mineralization.

Drill hole PEDD009 aimed to investigate the southern section of East Piaui target. The hole ran through its entire length into the barren mafic granite cut by very thin sulphide-filled fractures.

Drill holes PEDD011 and 012 aimed to check a gold anomaly found in trench 11. Both holes consist almost entirely of syenogranite cut sparsely by thin aplitic dykes and veins. At the

present only hole 11 was partially assayed. At the interpreted target intersection, assays returned low gold values and 8m@4g/t of silver.

The mineralization style and host rock composition along with a suite of metals marked by Bi+Te+Mo±Ag±W and lack of Cu, Pb and Zn at the Bat target suggest a close affiliation to the Intrusion Related Gold Systems which are worldwide known to produce large-tonnage low grade gold deposits.

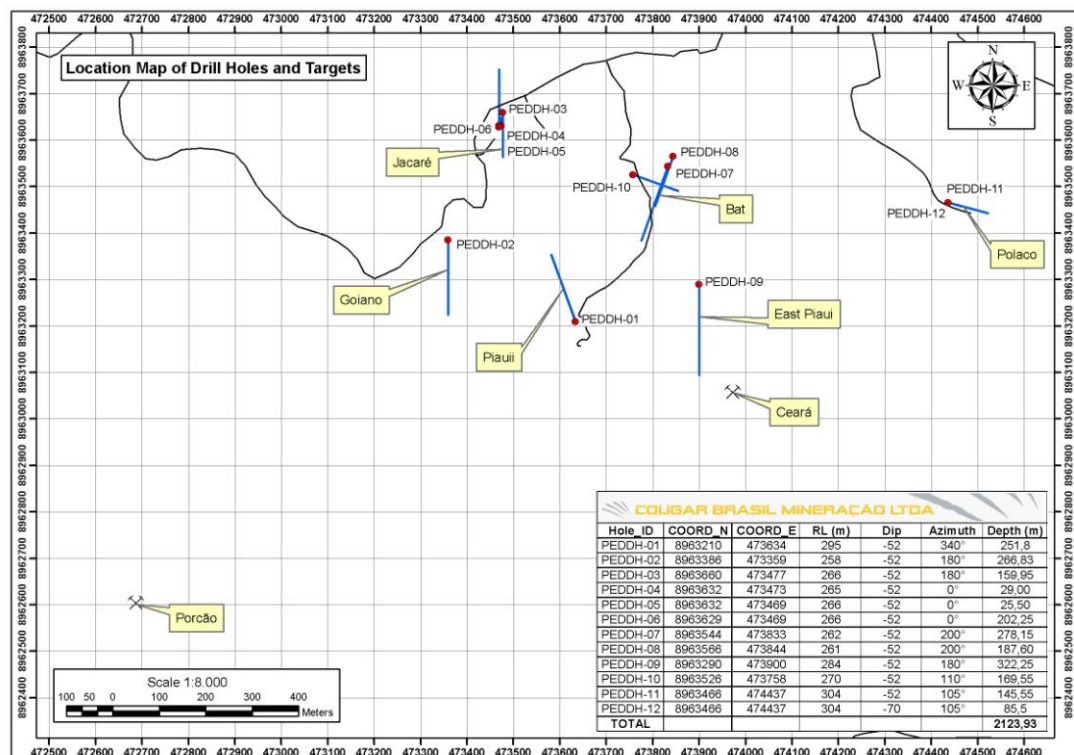


Figure 1: Map of Drillholes and Targets

Target Generation Program – four new high-grade gold targets

Cougar’s tenement holdings in the Apiacas District are nearly 600sqkm, the company has continued to focus on generating new and promising targets. During this quarter, several areas were visited, mapped and a significant number of samples were collected. Results of assays revealed four new potential targets, all of them related to the high-grade gold vein model.

Satellite Prospect is located 15 km northwest of Apiacas town and consists of a quartz-sulphide vein hosted by sheared mafic granitic rocks. This shear zone has a confirmed length of 400 m along a NE strike. Twenty samples including undeformed granites, sheared granites and quartz-pyrite fragments were collected and assayed. The mean grade for this suite of rock samples is 5g/t of gold but include gold grades as high as 14 g/t when only quartz-(sulphide) veins are considered. The metal suite is characterized by Bi+Ag+Te+Mo.



The Cabelo Target is located 25 Km northwest of Apiacas town and has been mined to a shallow depth recently by “Garimpeiros” in two small open pits. It consists of a set of thin and parallel quartz veins resembling the well-known sheeted vein structures which are commonly associated with the Intrusion Related Gold Systems. The Cabelo mineralized structure has a confirmed length of 600 m. Width varies from 0.5m to 2 m where two to ten quartz veins can be recognized. A set of 17 chip samples were collected and assayed. The returned average gold grade for this suite of samples is 3.38 g/t of gold including gold values as high as 24.4 g/t. The metal suite consist of Bi+Ag+As+Mo+Te.

The Porcao Target is situated on the SW limit of the Porto Estrela prospect. It consists of an old “garimpo” pit of 150 m by 25 m. Small amounts of mineralised material still available on surface was collected and assayed. The returned average grade of gold was 2.62 g/t and includes values as high as 6 g/t. This target differs from those cited above in that the assays include up to 17 g/t Ag, 1.3% Cu, 0.72% Zn, 0.32% Pb.

The Ceara Target is situated 470 m southeast of Bat Target within the Porto Estrela prospect area. It consists of a single thin quartz-sulphide vein exposed in a shallow garimpeiro pit. Only one sample has for far been assayed and returned a bonanza grade averaging 483 g/t of gold. The metal suite also includes 20g/t of Ag.

Results of the target generation program are positive and confirm the company’s view that several small to medium tonnage high-grade gold deposits may be present in the Apiacas district which altogether may add significant resources to the company’s portfolio.

Cougar continues to seek interested and suitable Joint Venture partners for some or all of the Alta Floresta Project areas in order to facilitate and expedite the ongoing exploration of this exciting and very prospective gold belt. Cougar’s tenements cover more than 80% of the ground which sourced the past +5million ounces of gold produced from this gold belt.

BRAZILIAN MINERAL DRILLING BUSINESS ACTIVITIES

Background

Cougar’s wholly owned contract drilling company, GeoLogica Sondagens Ltda (“**GeoLogica**”) is located in the city of Belo Horizonte, Minas Gerais, Brazil and provides RAB, RC and diamond drilling services to the Brazilian mining industry. GeoLogica commenced operations in October 2007 and has grown its fleet to include 5 wholly owned drilling rigs (2 RC, 3 diamond). Its current operating fleet consists of 1 RC rig and 6 diamond rigs (3 hired).

Mineral Drilling Business Activities

GeoLogica has enjoyed a strong finish to the 2009 calendar year with all rigs employed throughout the quarter.



Work was also secured for the company's drilling fleet at the end of the quarter which has resulted in a strong start to the 2010 calendar year with five rigs commencing work within the first week of January, and another two rigs employed by the 25th of January. This will see Cougar's four in country rigs employed as well as an additional three hired rigs.

Work in hand at the end of the quarter exceeded R\$ 4.8 million (AUD \$3.2M), with the diamond drilling fleet and the company's sole in country RC rig to be fully employed for the 3rd quarter and beyond.

Following completion of the Company's current capital raising, GeoLogica will complete the importation of its second RC drilling rig from South Africa. The rig is currently situated in Durban, ready for export, and is complete with drill rods and drilling tools. Discussion are underway with interested parties in regards to placing this unit to work in early April, following the planned commissioning the rig at GeoLogica's Belo Horizonte workshop.

Additionally the Company has purchased a comprehensive stock of spare components including 2 motors and a high pressure compressor which will be despatched from Perth in early February.

The early demand for drilling services in 2010 is encouraging and bodes well for the continued expansion of this division.

CORPORATE ACTIVITIES

In November 2009 the Company announced it was undertaking a placement at 2.8c and a conditionally underwritten 1:1 pro-rata renounceable rights issue at 2.8c ("**Rights Issue**") to raise capital to retire secured debt, assist the growth of GeoLogica, advance the Company's prospective exploration portfolio and provide general working capital. Patersons Securities Limited ("**Patersons**") was Lead Manager to the placement and Underwriter to the Rights Issue.

The Placement was completed in mid November 2009, raising \$631,425 (before costs).

In December 2009 Cougar announced that Patersons had elected to exercise its right to terminate the Underwriting Agreement entered into with the Company with respect to the Rights Issue as a result a technical breach, being the Company's share price closed under the issue price of 2.8c for the Rights Issue on 4 occasions during the Rights Issue.

In view of this decision by Patersons, the Company decided to terminate the Rights Issue, and after careful deliberation, and in consultation with Patersons, the Company resolved to restructure and re-price the rights issue. The Prospectus for the new offer, being a 3:2 pro-rata renounceable rights issue at 2.1c to raise \$5.4 million (before costs) ("**Restructured Rights Issue**"), was lodged with ASIC and ASX on 23 December 2009. The Restructured Rights Issue was conditionally underwritten by Patersons to the amount of \$4.9 million.

Subsequent to the quarters end, the Restructured Rights Issue closed on 27 January 2010. To date the Company has received a number of applications which are currently being processed. From applications received to date, the Company expects there will be a shortfall, with this shortfall to be reverted to Patersons to place in accordance with the Underwriting Agreement. Cougar will make an announcement with respect to this once processing has been finalised.

Melissa Fry resigned as Company Secretary of the Company, with Mr Randal Swick fulfilling this role until an appropriate replacement is appointed.

PLANNED ACTIVITY FOR THE NEXT QUARTER

Exploration

- Preparing for a magnetic survey program to extend the knowledge of Bat target and all the immediate region to better target favourable evolved magmatic rocks, in preparation for the next drilling program,
- development of the new high-grade vein style targets through geological mapping, trenching and channel sampling
- drilling program to further test the resource potential at the Bat and similar targets
- Geological and structural reconnaissance of highly rated quartz-sulphide veins within the Peixoto district, identified from earlier work by Cougar exploration teams.

Mineral Drilling Division

- Importation, commissioning and deployment of the company's wholly owned RC drilling rig and associated equipment into Brazil.
- Marketing of the company and investigation of new opportunities to continue the expansion of the drilling division.

Should shareholders have any queries in regards to this please contact the undersigned on 9381 1755.

Yours faithfully



RANDAL SWICK
Executive Chairman



The information in this report that relates to exploration results is based on information compiled by the Technical Director of Cougar Metals NL, Mr Ian Herbison, who is a Director of the Company and is a member of the Australian Institute of Geoscientists. Mr Herbison has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2004 edition of the "Australian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves". Mr Herbison consents to the inclusion in the report of matters based on his information in the form and content in which it appears.

About Cougar Metals NL:

Cougar Metals NL is a Perth based exploration company listed on the Australian Stock Exchange (ASX:CGM). The Company is focused on exploring the Alta Floresta Project in central west Brazil, where past production is estimated at five million ounces of gold. Cougar also operates a mineral drilling business in Brazil, providing surface diamond, reverse circulation and RAB drilling services to the Brazilian mining industry.

Website: www.cgm.com.au