

**ASX Release**

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**ASX Symbol:** AVB, AVBO, AVBOB



**TOURO NICKEL PROJECT**  
in the Carajas Mineral Province Brazil

## DECEMBER 2009 QUARTERLY ACTIVITIES REPORT

The Company is very pleased to report on activities at its Carajas projects during the December quarter. The first diamond core drill hole was completed and significant geochemical and geophysical anomalies were discovered at the Touro Nickel Project. At the Rio Verde high grade copper project, metallurgical testing confirmed the amenability of the high grade copper zone to beneficiation using the flotation process. Considerable progress has also been made towards the completion of the Rio Verde high grade copper scoping study.

### HIGHLIGHTS

- **First Touro Nickel drill hole, TSD01, intersected 130 metres at 0.09% nickel and confirmed the existence of sulphides and significant widths of nickel mineralisation.**
- **Subsequent geophysical Induced Polarisation (IP) anomalies have been identified over a four kilometre trend. These show strong chargeabilities typical of sulphide mineralisation.**
- **Soil geochemistry has identified a significant trend of anomalously high nickel and platinum associated with the IP anomalies, numerous high priority drill targets have been identified at the Tour Nickel Project.**
- **Traditional flotation process demonstrated as suitable for beneficiation of the Rio Verde high grade copper project with +75% copper recovery into saleable +20% Cu concentrates reported.**
- **Scoping study on the Rio Verde high grade copper project nearing completion.**
- **Starter project has potential to provide "out of the pit" parcels of direct saleable ores. This new strategy offers the Company a very low cost project start up scenario**

### TOURO NICKEL PROJECT

In October the Company completed its first diamond drill hole for 430.1 metres at the Touro Nickel Project in the Carajas region of northern Brazil. TSD-01 intersected:

**130 metres at 0.09% Nickel from 282 metres.**

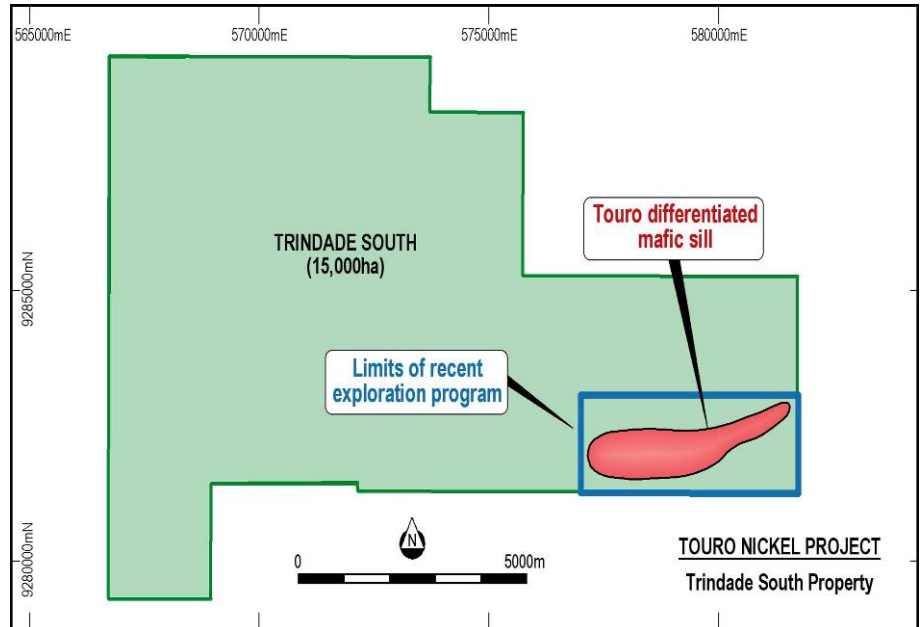
The drill intercept is hosted within a meta-pyroxenite and indicates that significant widths of nickel mineralisation are present within the



**Sulphide mineralised drill core from drill hole TSD-01**

Touro Sill. The Company considered this early drilling result as highly encouraging and continued with geophysical and geochemical activities.

An extensive program of geophysical and geochemical surveys have now been completed with results interpreted to be extremely positive.



### INDUCED POLARIZATION

The Touro Sill was covered by a 200 metre line spaced dipole-dipole IP survey. In most lines, very strong chargeabilities, coincident with low resistivities were detected. The majority of the stronger IP anomalies are coincident with anomalous nickel and platinum in soils. Evaluation of this data suggests that the IP responses may be related to the existence of sulphide mineralization. These are considered high priority drill targets.

### GROUND MAGNETICS

A ground magnetic survey was undertaken across the entire Touro Sill. This has defined a four kilometre long magnetic anomaly trending east-west to east-northeast.

### SOIL GEOCHEMISTRY

The project area was sampled on a 200m x 50m grid with samples being assayed for multi-elements by ICP analysis. The extensive nickel anomalous trend was also assayed for platinum group metals by fire assay. The results from the geochemistry indicate the existence of an extensive nickel soil anomaly with values >1,000ppm nickel and peaks of up to 2,000ppm nickel. The anomalous area extends for over four kilometres along the same east-west to east-northeast orientation and aligns well with the magnetic trend. Evaluation of the platinum results show that 33% of the samples were >9 ppb platinum, with peaks of up to 38 ppb platinum. This outlines a major east-northeast platinum anomaly 3,200m long x 200m - 400m wide. Platinum shows



**Geophysics has highlighted new high priority nickel sulphide targets over the Touro Sill.**



**Avanco is planning to use the Rio Verde High Grade Copper Project as a “Springboard” to become a copper producer in the Carajas.**



**Copper sulphide flotation from the Antas South high grade zone at Rio Verde**

a strong correlation with nickel. It is also evident that the higher platinum values are coincident with the higher IP chargeability anomalous trend. This further supports the Company view that the IP anomalies may reflect the presence of underlying nickel sulphide mineralisation and continues to highlight the geological similarities to Mirabela Nickel’s giant Santa Rita Nickel Project in the northeast of Brazil. The Company is expediting drilling rigs in anticipation of drill testing these targets in the coming months.

The Touro Nickel Project is located within the boundaries of the Trindade South property which comprises four contiguous tenements amounting to ~15,000 ha held by AVB Mineracao Ltda, a Brazilian subsidiary of Avanco Resources Limited. The property is located within a very prospective part of the Carajas region approximately half way between Vale’s Ounca-Puma nickel mine and the Vermelho nickel deposit. One of the worlds largest undeveloped iron ore deposit, Vale’s Serra Sul, is just a few km’s north of the Trindade South property.

### **RIO VERDE HIGH GRADE COPPER PROJECT**

Development of the Rio Verde high grade copper project was continued in the December quarter with considerable progress in metallurgical testing and advancing the scoping study.

Recent metallurgical test work has demonstrated that the Antas South Deposit (210,000t at 11.6% copper)<sup>1</sup> is amenable to the application of traditional flotation processes for the production of commercial concentrates.

A typical sample of high grade copper ore has been tested at independent metallurgical facilities in Perth WA. Sighter flotation test work confirmed a recovery of 76.7% copper into a 20.5% copper concentrate using a conventional rougher scavenger flotation flow sheet. The mass represented by the final combined concentrate was 43% of flotation feed, the grind size in preparation for flotation was 80% passing 100 microns.

The flow sheet simulated comprised a typical rougher scavenger configuration to produce sequential copper sulphide and copper oxide concentrates. Recovery of the copper oxides followed pre-flotation of sulphide copper minerals. The recovery of copper oxides was affected using a common industrial sulphidising flotation reagent as practiced in the Zambian Copper Belt. The Company is highly encouraged by the results and believes that with optimisation, including the option to introduce cleaner flotation stages, that copper recovery and concentrate grades can be improved further.

The metallurgical process route adopted has the advantage of producing separate copper sulphide and oxide concentrates which can be combined or marketed separately to maximise returns. This is

important for domestic off-take opportunities which can offer premiums on LME prices. Floatation tailings containing approximately 2% copper will be stockpiled and retreated in the expanded heap-leach SX-EW project.

A scoping study on the high grade starter project is nearing completion. With improving copper prices the Company has re-examined resource data to evaluate the feasibility of producing early parcels of "out of the pit" saleable ore that can be directly transported to smelters. Avanco is currently talking to a number of domestic and international parties interested in direct ship copper off-take. This strategy applied at the early stages of the starter project offers a low cost start-up scenario and potentially provides the Company with an alternative to seeking project funding. The direct-ship component of Antas South resource has been delineated to extend from surface to more than 30m depth and is open on strike. Open cut mining will be largely free digging with a minimal pre-strip requirement.

The Company has previously completed 8,500m of drilling at the Antas South Deposit and outlined a JORC resource of 210,000t at 11.6%Cu. This high grade zone is open along strike and at depth. Further drilling will be required to upgrade the resource into the measured and indicated categories as well as expanding the size of the resource. Additional proximal high grade zones are also known to exist at Rio Verde and remain to be adequately drill tested.

The JORC resource<sup>1</sup> at the Antas South Deposit, has been reported previously as:

An exceptionally high grade JORC resource<sup>1</sup> of:

- **210,000t at 11.65% copper, containing 24,400t of copper.**

At a 0.3% copper cut-off the global copper oxide JORC resource is:

- **8.0 Mt at 0.83% copper, containing 66,100t of copper.**

At a 0.1% copper cut-off the global copper oxide JORC resource

increases to:

- **17.6 Mt at 0.48% copper, containing 84,400t of copper.**



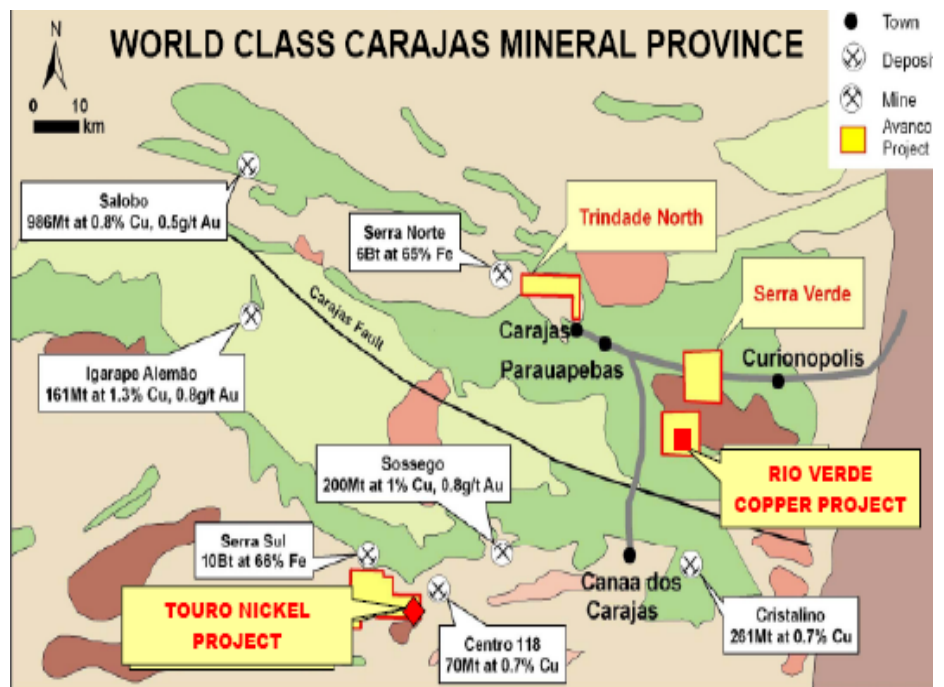
## CORPORATE

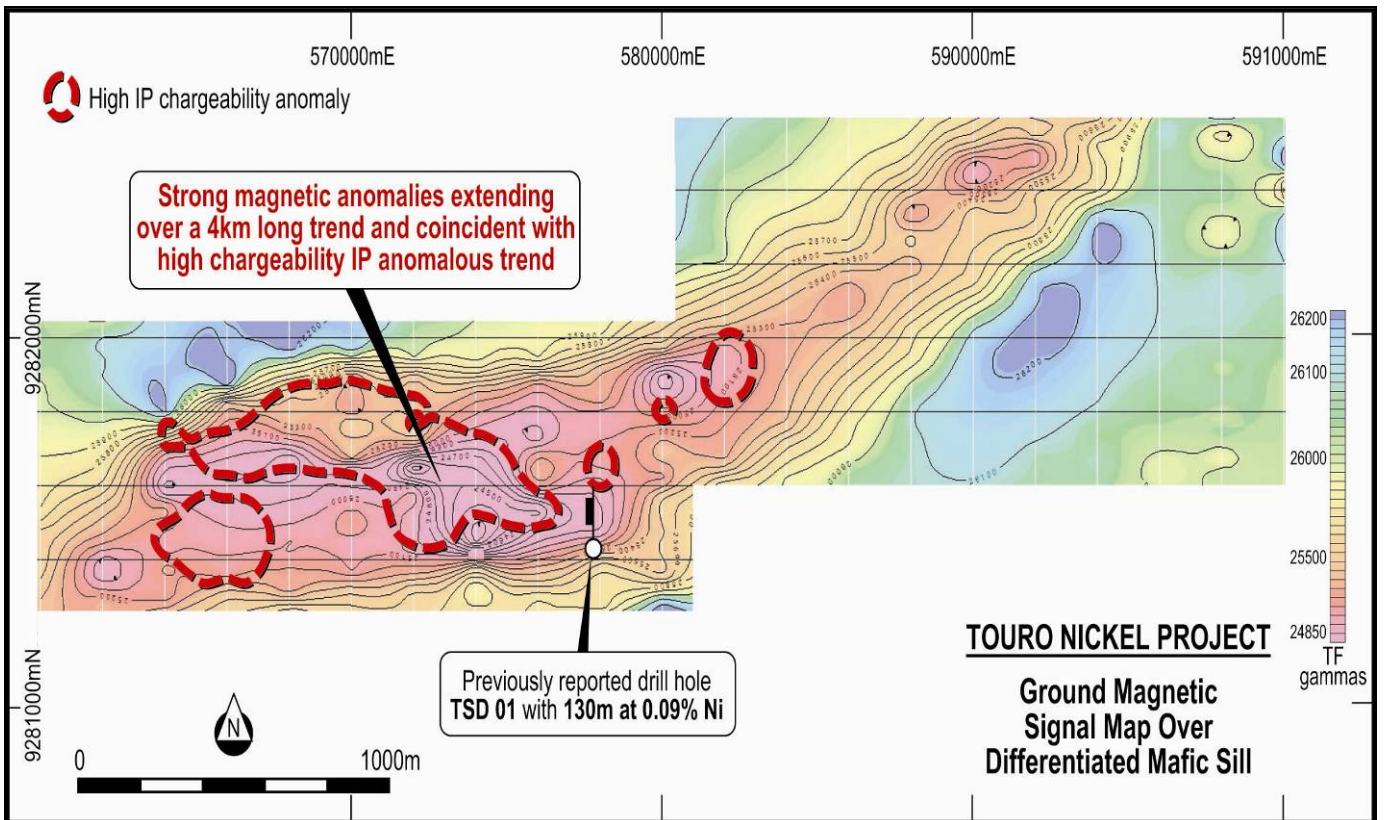
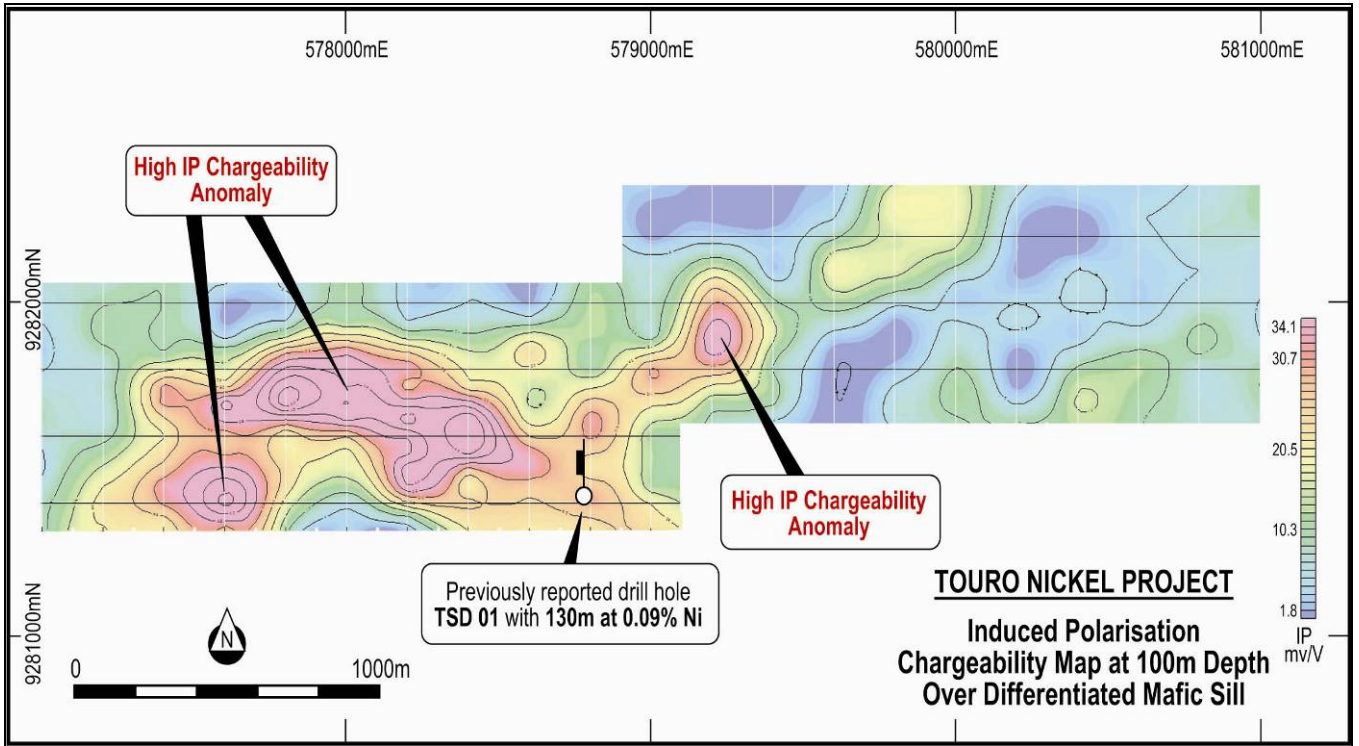
Avanco maintains a strong technical presence in Brazil and a base in Parauapebas, Carajas. The Company is well positioned to manage the Touro Nickel Project and the proximal Rio Verde High Grade Copper Project.

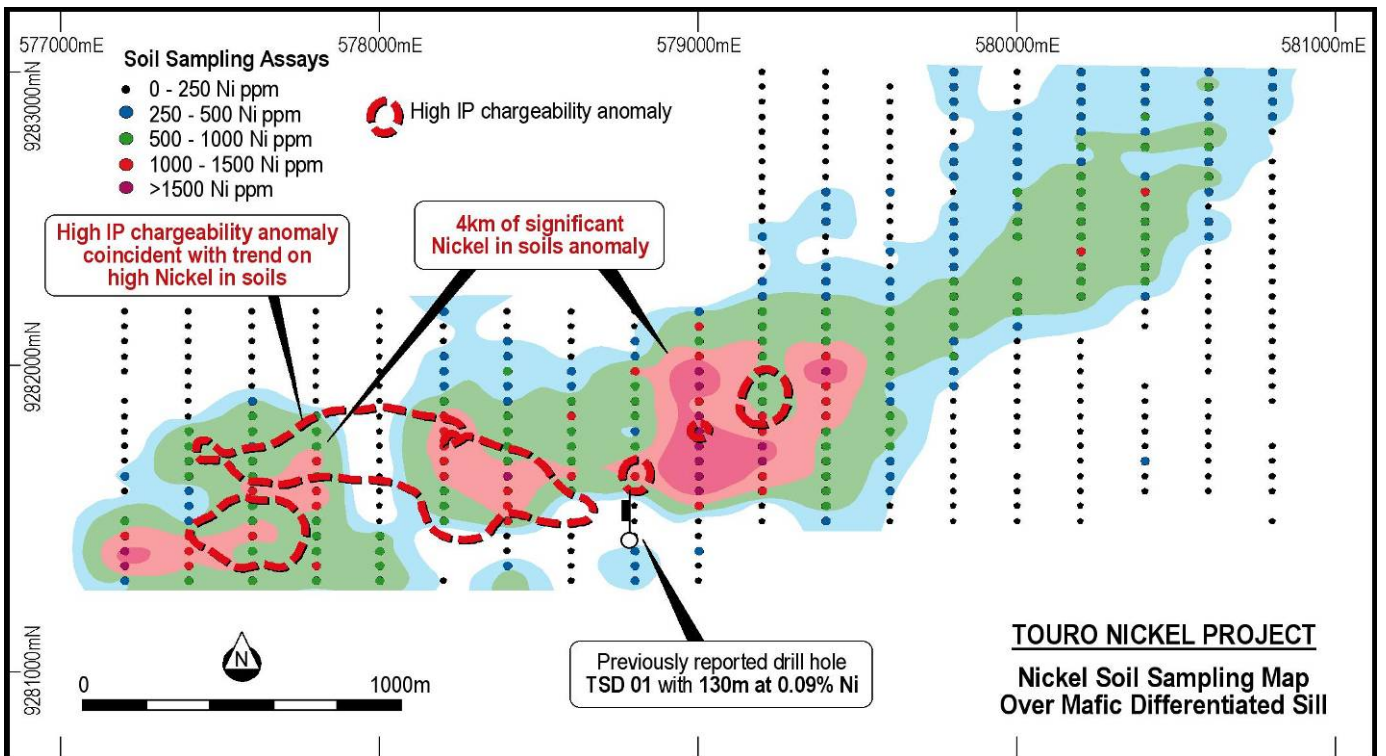
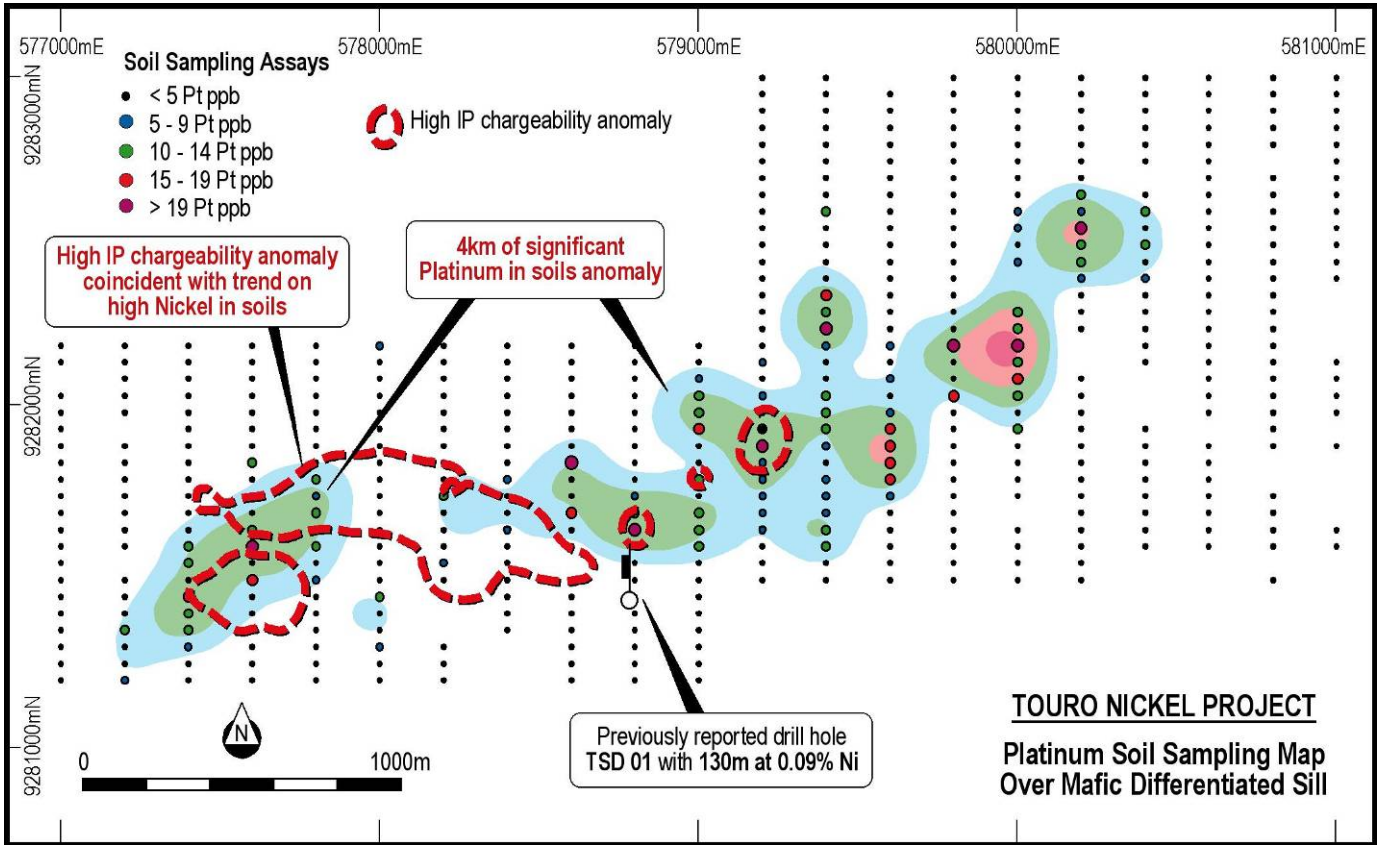
Tony Polglase  
Executive Director

*The information in this report that relates to mineral resources or ore resources is based on information compiled by Mr. Peter Ball who is a member of the Australian Institute of Mining and Metallurgy. Mr. Ball is the manager of Data Geo. Mr. Ball 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 Exploration Results, Mineral Resources and Ore Reserves. Mr. Ball consents to the inclusion in the report of the matter based on his information in the form and context in which it appears.*

*The information in this report that relates to Mineral Resources and Exploration Results are based on information compiled by Mr Matthew Wood who is a Member of the Australian Institute of Mining and Metallurgy. Mr Wood is the Chairman of Avanco Resources Limited. Mr Wood 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 Wood consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.*







<sup>1</sup>Maiden JORC Resource Estimate - Carajas Copper Project

<b>Antas South Deposit* - Oxide and Transitional</b>							
<b>All Material</b>	<b>Indicated</b>		<b>Inferred</b>		<b>Total Resource</b>		
<b>Cu Cut %</b>	<b>Tonnes</b>	<b>Cu%</b>	<b>Tonnes</b>	<b>Cu%</b>	<b>Tonnes</b>	<b>Cu%</b>	<b>Cu Tonnes</b>
<b>0.1</b>	<b>12,662,000</b>	<b>0.45</b>	<b>4,961,000</b>	<b>0.56</b>	<b>17,622,000</b>	<b>0.48</b>	<b>84,400</b>
<b>0.3</b>	<b>6,254,000</b>	<b>0.71</b>	<b>1,723,000</b>	<b>1.27</b>	<b>7,977,000</b>	<b>0.83</b>	<b>66,100</b>
<b>HGZ**</b>	<b>89,000</b>	<b>12.72</b>	<b>121,000</b>	<b>10.87</b>	<b>210,000</b>	<b>11.65</b>	<b>24,500</b>

*\*Antas South is part of the Carajas Copper Project - Rio Verde Property. \*\*The HGZ (High Grade Zone) is included within the overall estimation and no top-cut has been applied to the resource in this zone*