



# Outstanding Gold Grade from Latest Cascavel Bulk Sample

**27.2g/t average grade with new results demonstrating both the tenor and scale of mineralised system**

## Key Points

- **2.5 tonne bulk sample from Lower Gold Zone returns 27.2 g/t gold.**
- **Bulk sample collected ~400m along strike from previous bulk sampling results (ASX Release – 20 January 2014).**
- **Results highlight excellent gold grades within the Lower Gold Zone and demonstrate continued high tenor of the mineralisation along strike.**
- **Recently commenced Cascavel exploration decline progressing on schedule.**

Orinoco Gold Limited (ASX: **OGX**) is pleased to announce that fresh high-grade bulk sampling results from its **Cascavel Gold Project** in central Brazil have provided further evidence of both the strength and scale of the mineralised system.

The Cascavel Project forms part of an emerging regional gold production hub at Orinoco's 70%-owned Faina Goldfields Project (see Figure 1).

Cascavel has the potential to contribute a significant source of high-grade ore to a central processing facility proposed to be initially located at the fully permitted Sertão gold mine site, 28km away.

The new sampling and mapping program was specifically designed to test the lower gold lode (the Cuca lode) at Cascavel following recently completed interpretation of exploration data from bulk sampling and drilling in the upper gold lode (the Mestre lode).

The primary aim of the bulk sampling campaign was to ascertain if geological characteristics similar to those interpreted in the Mestre lode are evident in this lower gold zone.

The results highlight that there are two known parallel gold lodes at Cascavel both of which host structurally controlled high-grade gold shoots, located within a broader mineralised envelope.

## ASX Release

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## Issued Capital

112,078,801 Ordinary Shares  
15,000,000 Performance Shares  
26,676,089 Listed Options  
19,400,000 Unlisted Options

## ASX Code

OGX (Ordinary Shares)  
OGXO (Listed Options)



These two shear zone hosted gold lodes are separated by a vertical distance of 15-20m, in which high-grade silver plus copper has been intersected in recent drilling.

A total of 2.5 tonnes of material was collected from an artisanal winze that is driven into the lower of the two currently known gold zones at Cascavel (Figure 5). The bulk sample was collected as a continuous sample from the face of a 5m winze that was previously opened along the strike of the mineralisation (Figure 4).

The location of the sample is interpreted to be part of a high-grade ore shoot and contrasts with a 500kg bulk sample collected in November 2012 (grading 4.5g/t gold) that is interpreted to represent the lower grade mineralised envelope surrounding the high grade shoots.

While there appears to be some difference regarding the orientation of the gold-bearing veins between the parallel gold lodes, the same stretching lineation appears to control the high grade gold shoots in both the upper and lower gold lodes. Further information on the collection and assaying of the bulk sample is contained in Section 1.

Orinoco has recently commenced an exploration decline directly into the upper gold lode (the Mestre lode). The decline will cut across strike and down-dip from the area of the Cascavel winze towards the Mestre winze which is approximately 400 metres south along strike from the bulk sample location reported in this announcement (Figure 2).

The decline will significantly increase the area over which the Company can acquire detailed geological information, paving the way for a Scoping Study to be undertaken on the potential of this portion of the Cascavel Project to underpin a start-up mining operation.

The Company intends to conduct channel and face sampling of the decline to generate initial grade numbers. Material removed from the decline will be stockpiled ahead of any decision to toll-treat the material.

Orinoco's Managing Director Mark Papendieck said the latest bulk sampling results added further depth to the Company's growing understanding of the structure and orientation of the gold mineralisation at Cascavel, reinforcing the significant potential of the project.

"Not only do these results show that both known gold zones host high-grade gold – the fact that these results are located over 400m along strike from the previously announced bulk sample continues to demonstrate that Cascavel has the potential to be a large system," Mr Papendieck said.

"Over the last few months our understanding of the system at Cascavel has grown rapidly which gives us great confidence as we continue with the recently commenced exploration decline," he added. "The combination of bulk sampling, channel and face sampling within the new decline and more drilling will ultimately give us a very clear understanding of the average grade, size and economic potential of the mineralisation at Cascavel."

**-ENDS-**

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**Competent Person's Statement:** *The information in this presentation that relates to Exploration Results is based on information compiled by Dr Klaus Petersen who is a member of the Australasian Institute of Mining and Metallurgy and CREA. Dr Klaus Petersen is an employee of Orinoco Gold Limited and has sufficient experience, which is relevant to the style of mineralisation under consideration and to the activity that they are undertaking to qualify as a Competent Person as defined in the 20012 Edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. Dr Klaus Petersen consents to the inclusion in this report of the matters based on the information in the form and context in which it appears.*

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*It is common practice for a company to comment on and discuss its exploration in terms of target size and type. Any information relating to the exploration target should not be misunderstood or misconstrued as an estimate of Mineral Resources or Ore Reserves. Hence the terms Resource(s) or Reserve(s) have not been used in this context. The potential quantity and grade is conceptual in nature, since there has been insufficient exploration to define a Mineral Resource. It is uncertain if further exploration will result in the determination of a Mineral Resource.*

**About the Faina Goldfields Project**

Orinoco aims to build a high-grade resource inventory at the Faina Goldfields Project, initially to support a low-cost gravity gold operation. The Company is confident that sites within the broader Faina Project such as Cascavel (OGX: 70%) and the Sertão gold mine (OGX acquiring 100%) (see Figure 1) offer significant resource potential from ongoing exploration and resource definition programmes.

Sertão is a fully licensed gold mine located 18km along strike (28km by road) on the same mineralised shear zone as Cascavel, which in turn is currently licensed for underground ore extraction.

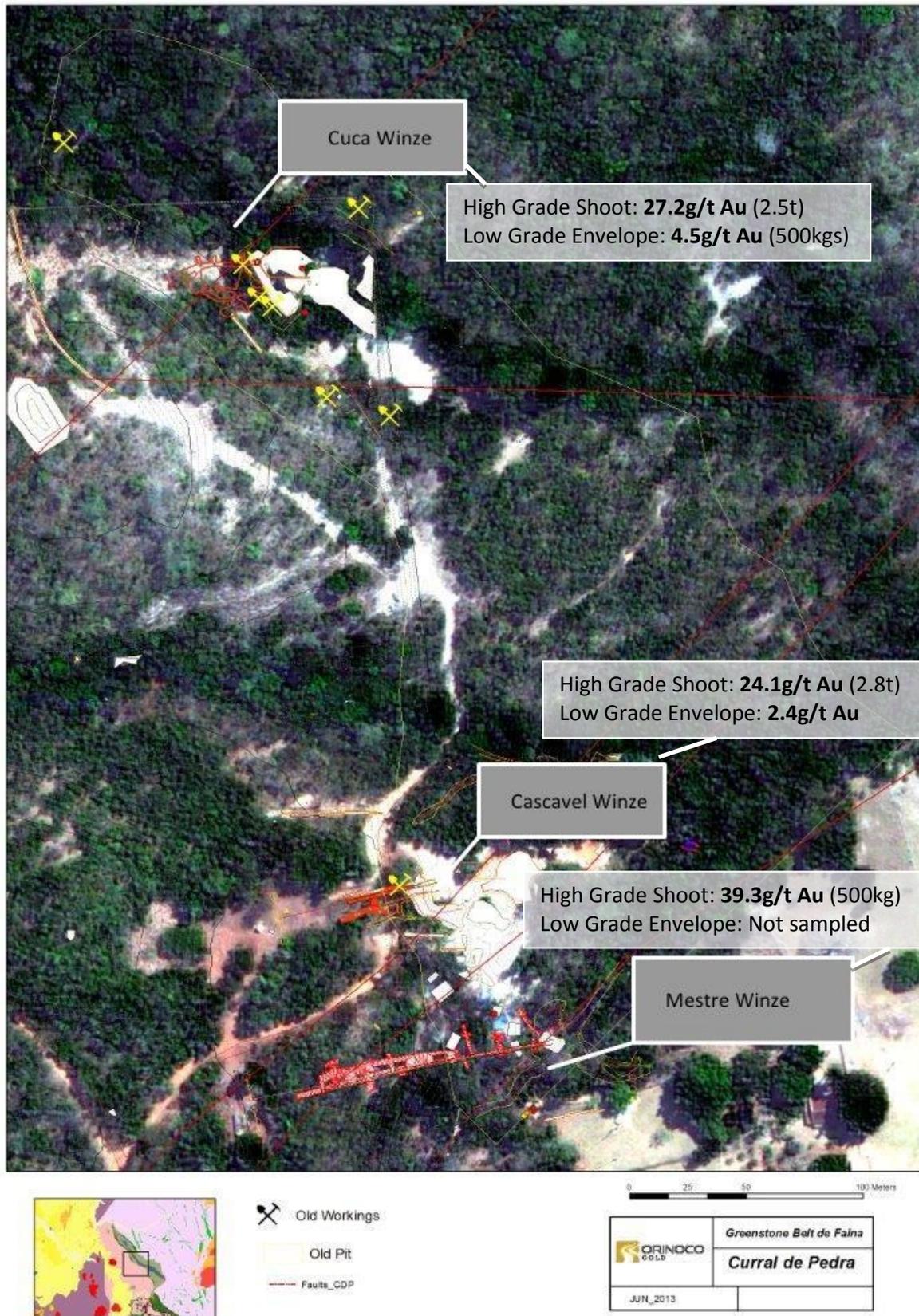
In line with this strategy, the Company is currently conducting exploration and resource definition programs on several fronts, including:

- Trial mining from a new exploration decline at Cascavel;
- Ongoing licensing work at Cascavel, including preparations to lodge a full-scale Mining Lease application, and;
- The sourcing and pricing of appropriate plant and equipment to commence a gravity gold operation at the Faina Goldfields Project.
- Exploration at the large Tinteiro IOCG target.

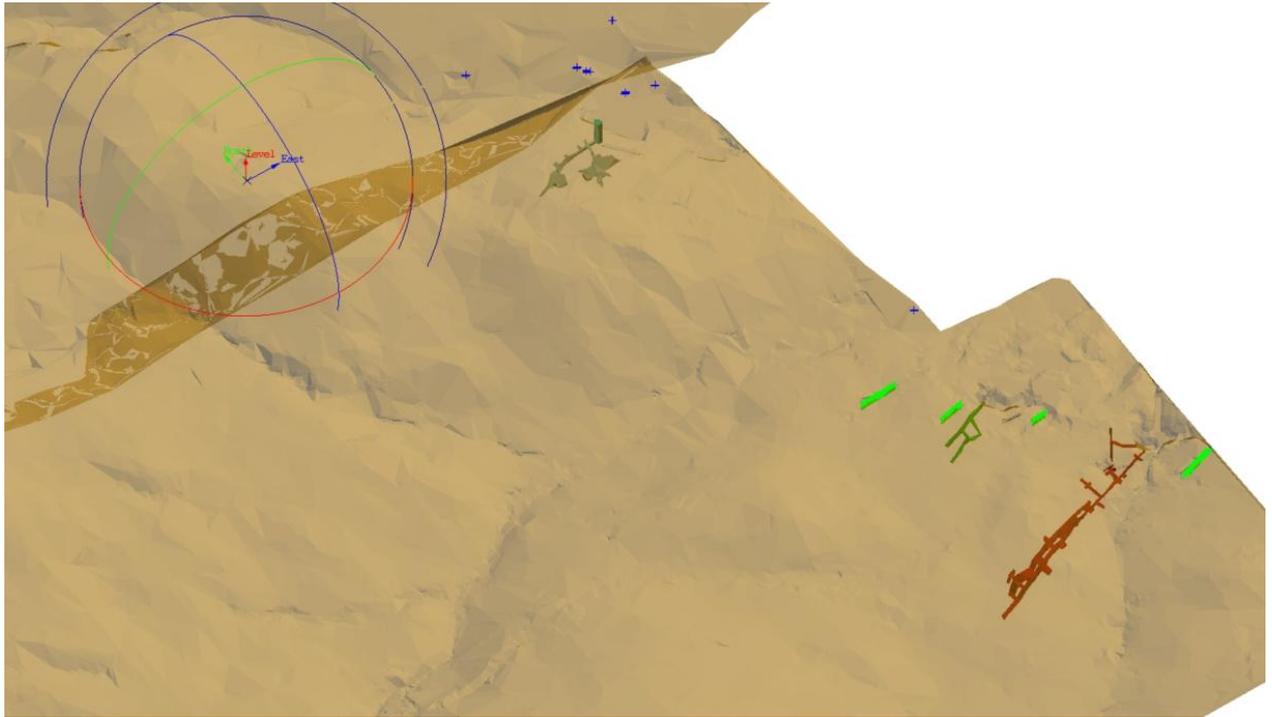
# FAINA GOLD PROJECT - Existing Infrastructure for Proposed Processing Hub



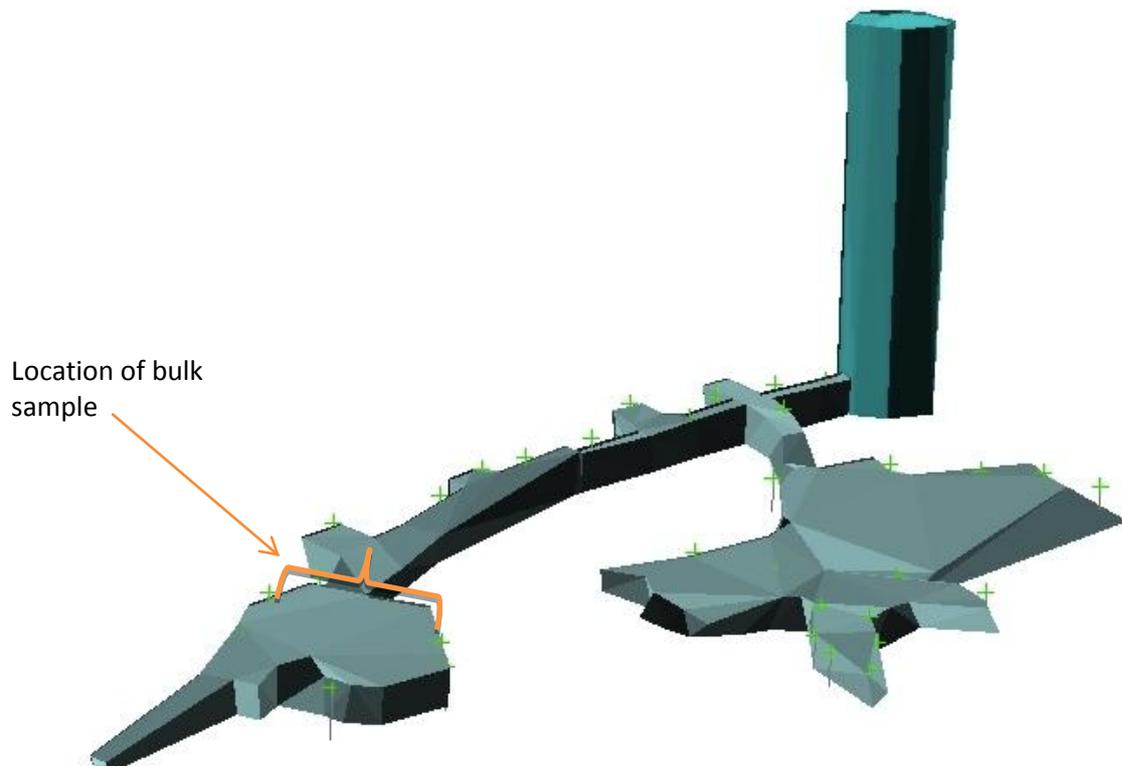
Figure 1. Faina Goldfields Project.



**Figure 2.** Plan view of the location of the artisanal winzes that have been bulk sampled showing grade and sample size. Note the further winzes (marked in yellow) that have not been reopened/sampled by Orinoco.



**Figure 3.** Three dimensional view of the artisanal winzes that have been re-opened by Orinoco and bulk sampled to (surface represented by the khaki coloured plane). Un-opened unsurveyed workings represented in light green and dark blue.



**Figure 4.** The Cuca winze. Location of the face from which the bulk sample reported in this announcement was collected. The Cuca winze is accessed by a vertical 18m shaft.

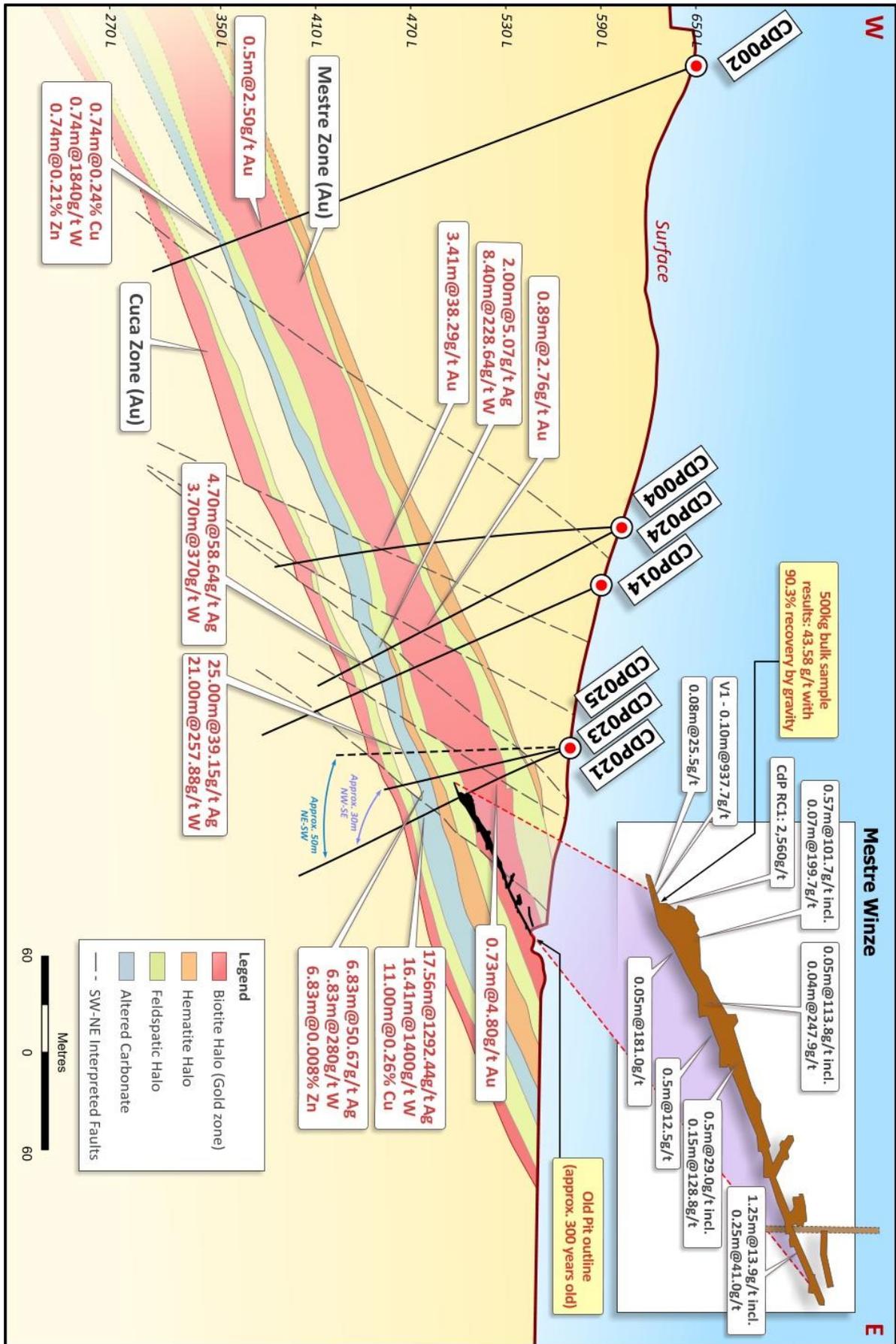


Figure 5. Cross-section of Cascavel showing the Mestre (upper gold lode) and Cuca (lower gold lode) zone.

**Table 1. Assays Results from Bulk Sample.**

SAMPLE DESCRIPTI	Au-SCR24 Au Total ppm	Au-SCR24 Au (+) Fraction ppm	Au-SCR24 Au (-) Fraction ppm	Au-SCR24 Au (+) mg	Au-SCR24 Au (+) mg	Au-SCR24 WT. + Frac Entire g	Au-SCR24 WT. - Frac Entire g
P 06 S1	24.7	471	6.85	18.012		38.24	953.8
P 06 S2	22.3	372	7.83	14.401		38.68	932.9
P 06 S3	46.8	897	11	35.204		39.24	930.5
P 06 S4	15.5	251	4.6	11.054		44.11	949.9

WEIGHTED AVERAGE GRADE: 27.23g/t Au

*2.5 tonne sample was crushed and homogenised, following which the entire sample was dried and separated into four elongated stockpiles. A ~1kg sample was collected from each pile and the weighted average of the four assays is reported as the head grade of the bulk sample. See Section 1 for more details.*

**Table 2.** Location of Bulk Sample. The total face sampling length is approximately 5 metres.

Coord Sample mid Top			Coord Sample mid Base		
SAD East	SAD North	RL	SAD East	SAD North	RL
561426.17	8288417.69	526.45	561426.12	8288417.81	525.98

## Section 1 Sampling Techniques and Data

Criteria	Commentary
<i>Sampling techniques</i>	<ul style="list-style-type: none"> <li>• <i>Underground bulk sampling</i>: the samples were collected from face/panel sampling on a cross cut within the Cuca winze. This transverse winze is about 5m long and was opened across the strike of the mineralisation oriented N-S. The wall of the winze is about 2m high and exposes a set of mineralized veins and some late barren veins. The package was collapsed by blasting the mineralised face of the winze wall and then collected. Sampling width averaged 0.5m average.</li> <li>• <i>Sampling procedures at the pilot plant</i>: after the sample has been crushed to &lt;0.4mm the samples are homogenised and arranged in one uniform stockpile with less than 3 tonnes in an elongated shape. The pile was sampled from four sections (head grade) and the entire sample for each section was submitted for screen fire assay. All samples were analysed by screen fire assay.</li> <li>• All data is stored in the data base following QA/QC procedures.</li> <li>• <i>Gold Mineralisation at Cascavel Target (including ore from Mestre, Cascavel and Cuca winzes)</i>: gold Mineralisation at Cascavel is interpreted as an Orogenic Deposit type and is hosted in stacked quartz veins ranging from 0.1 – 1m wide and stacked repeatedly with variable alteration zones ranging from 1.5-15m. Drilling confirmed structural continuity along strike and plunge, micro-conglomerate and quartzite as a host rock and a biotite + fuchsite + sulphide alteration halo as the main characteristics. Gold is very coarse grained and clustered through the ore zone plunging 240-250/25.</li> <li>• Polymetallic Mineralisation at Tinteiro: silver/tungsten/copper are interpreted as carbonate replacement Mineralisation type that overlaps parts of the Cascavel Orogenic style Mineralisation and represents the most distal expression of the Tinteiro system. Closer to the core of the Tinteiro system gold, copper, barium, cobalt, uranium anomalies occur with hematite, potassic and sodic alteration together with structural features like fold hinges and crosscutting faults that are interpreted as a potential IOCG target.</li> </ul>
<i>Drilling techniques</i>	<ul style="list-style-type: none"> <li>• No drilling is reported in this announcement.</li> </ul>
<i>Drill sample recovery</i>	<ul style="list-style-type: none"> <li>• No drilling is reported in this announcement.</li> </ul>
<i>Logging</i>	<ul style="list-style-type: none"> <li>• NA.</li> </ul>
<i>Sub-sampling techniques and sample preparation</i>	<ul style="list-style-type: none"> <li>• Bulk samples are sent to the pilot plant at METAGO lab in Goiânia, Goiás State where they are dried before being crushed.</li> <li>• The approximate 2.5ton sample was crushed and homogenised at the METAGO Lab. Five 1kg samples were prepared and sent to ALS Laboratory. Four samples were collected from sections made in homogenized pile and a fifth sample was a composite with 250g split fractions from the four sections.</li> </ul>
<i>Quality of assay data and laboratory tests</i>	<ul style="list-style-type: none"> <li>• In the lab, all samples are dried at 100°C and crushed to 9 mesh in a jaw crusher. The samples go to a Jones or Rotary splitter and 500g of material is separated and powdered to 150#. The 150# pulp is quartered and an aliquot of 50g is obtained. This aliquot is analysed with Fire Assay method in non-ore samples. Metallic Screen Fire Assay is applied if the sample is considered ore. Selective samples are analysed in ICP-MS (Inductively Coupled Plasma Atomic Emission Spectrophotometry), with a multi-</li> </ul>

Criteria	Commentary
	<p>acid digestion for 32 elements.</p> <ul style="list-style-type: none"> <li>Standards (insertion of different standards in each 30 samples approximately): If less than 10% is outside of the mean + 2x Std. Dev, the results are validated. If less than 10% is outside the Mean + 3x Std. Dev, but there are standards between the first and these two points - the results are validated, but the Lab is notified. If more than 10% is outside the Mean + 3x Std. Dev, the batch (40 samples) is rejected, an investigation is required and a re-analysis of the batch is made.</li> <li>Blanks (insertion in each 30 samples approximately): If less than 5% is above 5x the detection limit of the Lab, the results are validated. If more than 5% is above 5x the detection limit, the Lab is notified and the batches with failure are re-analysed.</li> <li>Duplicates (insertion in each 20 samples – Bias control): Project Duplicates are core quarter and Lab duplicates are Gravel and Pulp Duplicates.</li> <li>Channel samples were analysed by Metallic Screen Fire Assay. This method has been proved as the best method due to the constant presence of free coarse gold on the samples.</li> </ul>
<i>Verification of sampling and assaying</i>	<ul style="list-style-type: none"> <li>The data entry and storage of physical data is made on site.</li> </ul>
<i>Location of data points</i>	<ul style="list-style-type: none"> <li>The grid system used is UTM South American 1969 - Zone 22 S.</li> <li>The topography crew uses local landmarks to guarantee the quality of their surveying.</li> </ul>
<i>Data spacing and distribution</i>	<ul style="list-style-type: none"> <li><i>The bulk sample was collected from a continuous face sampling procedure across a 5 meters face over an area of ~0.5 meters width resulting in a mass of approximately 2.5 tonnes.</i></li> </ul>
<i>Orientation of data in relation to geological structure</i>	<ul style="list-style-type: none"> <li><i>The face sampling targeted a cross-cut of a high grade shoot in an existing artisanal winze. The material collected in the sampling consisted of veins and altered rock.</i></li> </ul>
<i>Sample security</i>	<ul style="list-style-type: none"> <li>All laboratory pulps are stored in the core shed in boxes supplied by the labs, stacked in dry places.</li> </ul>
<i>Audits or reviews</i>	<ul style="list-style-type: none"> <li>N/A</li> </ul>

## Section 2 Reporting of Exploration Results

(Criteria listed in the preceding section also apply to this section.)

Criteria	Commentary
<i>Mineral tenement and land tenure status</i>	<ul style="list-style-type: none"> <li>The Faina Goldfield project is 70% hold by Orinoco do Brasil Mineração Ltda, which in turn is 100% owned by Orinoco Gold Ltd. The 30% partners are free carried during the exploration stage until a decision to mine.</li> <li>Some locations within the project have archaeological sites that are required to be mapped and photographed prior to removal of the sites (ongoing activity on the tenement 840167/2007).</li> <li>The tenement 840167/2007, where the majority of the work at Cascavel has been completed is a granted exploration permit valid until the 29.11.2014 when the final</li> </ul>

Criteria	Commentary
	report will be due.
<i>Exploration done by other parties</i>	<ul style="list-style-type: none"> <li>• Exploration for oxide gold deposits was well developed on the belt during at least 20 years, in different cycles and by different companies. A reasonable amount of surface exploration was carried out. Soil, stream sediments and chip sampling (for gold) are widespread along and around both belts. Those surface surveys detected several gold and arsenic anomalies (about 64 anomalies are described). Some of those anomalies were tested with drilling, frequently with positive results. However drilling was generally very shallow RAB drilling.</li> </ul>
<i>Geology</i>	<ul style="list-style-type: none"> <li>• Gold mineralisation is widely distributed on the Faina Greenstone Belt, occurring on the ultramafics, felsic and mafic volcanics, on the clastic metasedimentary sequence and particularly at the chemical metasedimentary rocks.</li> <li>• Golden trends seem to be very continuous also along the strike, mostly associated with the main regional scale shear zones.</li> <li>• Mineralisation styles are varied on the belt. Most part of the gold mineralisation can be classified as Orogenic, mainly hosted in chemical and volcanoclastic sedimentary units. The following models can be considered, according to the available data: Shear Hosted (Orogenic) associated with carbonaceous/BIF hosts, mafic volcanic and volcanoclastic units (Cascavel Target). Paleo Placer/Conglomerate Hosted: associated with meta-conglomerates within the Proterozoic (Paleo?) transgressive clastic sequence (Eliseo Target). Au rich VHMS: hosted by younger Meso-Proterozoic intrusives in the volcanosedimentary rocks sequence in the Goiás Block, potentially in the Faina greenstone. The silver-tungsten-copper mineralisation at Cascavel target has been interpreted as a carbonate replacement deposit due to the strong relationship to the impure limestone unit and crosscutting faults. The Tinteiro Target shows features so far interpreted as potentially related to a late IOCG system.</li> </ul>
<i>Drill hole Information</i>	<ul style="list-style-type: none"> <li>• All drill hole, channel sampling and chip sampling data has been released in compliance with JORC 2014.</li> </ul>
<i>Data aggregation methods</i>	<ul style="list-style-type: none"> <li>• <i>The four samples were taken from separate sections on the homogenised stock pile. Each section was then split to generate four ~1kg samples that were sent to the lab for screen fire assay. Another split of each sample of approximately 250g was used to generate one composite sample of 1 kg.</i></li> <li>• <i>The result of the four section samples are presented as a weighted average (since the precise weight was not exactly one kg for each) and this result is considered the best representation for the average grade due to the greater sample size. The composite sample was used to confirm consistency but with coarse gold sampling the higher mass sampling assays results in a better representation of the true average grade.</i></li> </ul>
<i>Relationship between mineralisation widths and intercept lengths</i>	<ul style="list-style-type: none"> <li>• The Orogenic type gold Mineralisation at the Cascavel Target has a 210-230/25 direction and this value is interpreted as been constant over a strike length of 1.6km and a down dip length of 600m. The hole CDP002, CDP014, CDP024 and CDP021 show true with for the intercepts and for drill holes CDP004, CDP023 and CDP025 the intercepts represents an approximate true thickness due to the drill hole not been designed to intercept the ore zone at a perpendicular angle.</li> <li>• At the Cuca level the orientation of the veins are slightly different from the Mestre level and is controlled by the main regional fabrics, dipping to the SW. However, stretching lineation which is interpreted to controls the high-grade shots is the same as in the Mestre level, plunging gently to the W.</li> <li>• For the Polymetallic Mineralisation the intercepts of the drill holes CDP002, CDP014,</li> </ul>

Criteria	Commentary
	CDP024 and CDP021 represent the true width and drill holes CDP023 and CDP025 do not represent the true width due to the hole not being designed to intercept the ore zone at a perpendicular angle.
<i>Diagrams</i>	<ul style="list-style-type: none"> <li>Diagrams relating to the results discussed in this announcement are attached to the current announcement.</li> </ul>
<i>Balanced reporting</i>	<ul style="list-style-type: none"> <li>This announcement is a comprehensive report.</li> </ul>
<i>Other substantive exploration data</i>	<ul style="list-style-type: none"> <li>The bulk sample was collected from one of the artisanal winzes that was recently dewatered prior to mapping and sampling. The Cuca winze, is composed of two almost parallel declines that starts 18meters below the surface. The decline is approximately 25m long with a westerly orientation closely parallel to the main orientation of the plunge of the ore. There is perpendicular crosscuts oriented N-S (along strike). Part of the hanging wall is not exposed due to the roof, the Cuca winze is interpreted to be located in the lower portion of the first zone of gold bearing stacked quartz carbonate veins (the Cuca zone). The set of mineralised quartz veins are exposed both along the declines and across the crosscuts that link both declines. Two main parallel veins and numerous veinlets showing strong carbonate-sericite alteration are observed along the plunge and strike and continue into the roof of the winze.</li> <li>A bulk sample of an ore shoot (“high-grade”) was collected and is composed of mineralized quartz vein plus altered zones of the the host rock. The height of the mineralised area sampled varies from 0.10-0.70 metres.</li> <li>The bulk sample was crushed in an independent pilot plant at the local Metais de Goiás (Metago) metallurgical facility. The samples were crushed to below 5mm and homogenised.</li> </ul>
<i>Further work</i>	<ul style="list-style-type: none"> <li>An exploration decline at the Mestre lode is currently in progress to improve information about size, grade and geometry of the ore shoots and continuity of the mineralized ore zones. No further work around the Cuca lode is currently planned.</li> <li>Bulk sampling is the optimal way to test coarse and clustered gold mineralisation.</li> <li>The drilling program was very effective to delimit the ore zones at Cascavel Target but drilling from surface alone for resources needs a very tight grid and or support from the exploration decline development, particularly face sampling together with underground drilling.</li> </ul>