



## Further Outstanding High-Grade Gold Results from Initial Mining Areas at Cascavel

*Latest underground sampling returns gold grades of up to 20oz-a-tonne (635g/t) in Cascavel Level Drives with mine development progressing according to plan*

### Highlights

- Latest underground panel sampling returns grades of up to 635g/t Au within first high-grade shoots in the mine plan.
- Latest results from 0.5m high panel samples along the (sub-horizontal) strike of the mineralised zone extend the previously reported composites to:
  - **3.66m @ 142.62g/t Au** (left drive wall); and
  - **4.56m @ 49.65g/t Au** (right drive wall)
- Sampling after this point has continued to yield significant visible gold – *assays pending*.
- Results reported in this announcement are located only 15m from previously reported exploration decline results of 15m @ 88g/t Au.

Orinoco Gold Limited (ASX: OGX) is pleased to report further outstanding results from underground mine sampling at its flagship **Cascavel Gold Mine** in central Brazil as it advances towards first production early next year.

The latest results, which provide further evidence of the exceptionally high-grade nature of the mineralisation at Cascavel, have extended the high-grade zone on Level 0 Central from which stoping will commence in January 2016.

The central portion of the mine now has underground sampling extending over a strike length of ~20m (from a Level Drive and the exploration decline) including:

- **3.66m @ 142.62g/t Au** (left drive wall);
- **4.56m @ 49.65g/t Au** (right drive wall); and
- **15m @ 88g/t Au** (exploration decline).

The Level 0 Central has now advanced through the previous exploration decline and is continuing north towards the Cascavel Service Shaft (see Figure 7), where visible gold continues to be encountered in face sampling of each advance.

The Cascavel Gold Mine is currently advancing on the following headings: Level 0 Central, 2 slot raises on Level 0 Central, Level 1 Central, Level 1 South, Level 1 North, the Main Incline Shaft and the Cascavel Service Shaft.

Please refer to the section below entitled “Panel Sampling & Application of Results to Head Grade” for an explanation of how to consider the impact of mining dilution on these 0.5m high panel sample results.



**Figure 1.** Panning of alteration from a 10kg sample from the face of Level 0 Central several metres beyond the assays reported in this announcement. Note the particularly coarse gold grains/nuggets. Assays from the corresponding panel samples taken from the walls are pending.



**Figure 2.** Selected vein material from the same 10kg sample as figure 1 face of advance in Level 0 Central. Note the large nuggets in the quartz. It is this feature of Cascavel that makes accurate grade estimation difficult.





**Figure 3.** Main Incline Shaft.



**Figure 4.** Cascavel Service Shaft. The Central levels of the mine are located between the Main Incline Shaft and the Cascavel Service Shaft.

Orinoco's Managing Director, Mr Mark Papendieck, said mine development at Cascavel was proceeding extremely well with significant visible gold being consistently encountered in the high-grade ore zones.

"We continue to be very encouraged by what we are seeing in the initial mining areas with the results of the panel sampling continue to surprise on the upside," he said.

"Mine development is progressing according to plan – as is installation of the Cascavel Gravity circuit, for which we look forward to providing an update in the coming days. All of the material currently being mined from development at Cascavel, prior to the commencement of stoping early next year, will be ideal feedstock to be used in commissioning the Cascavel Gravity Circuit."

**-ENDS-**

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**Previously Reported Results:**

23 Oct 2014 – Cascavel: More Bonanza Results Extend Current High Grade Zone to 15m @ 88g/t Au

**Competent Person's Statement:**

*The information in this announcement 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 and Dr. Marcelo Juliano de Carvalho who is member of the Australasian Institute of Mining and Metallurgy. Dr Klaus Petersen and Dr. Marcelo Juliano de Carvalho are employees of Orinoco Gold Limited and have 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 2012 Edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. Dr Klaus Petersen and Dr. Marcelo Juliano de Carvalho consent to the inclusion in this report of the matters based on the information in the form and context in which it appears.*

### **Panel Sampling & Application of Results to Head Grade**

Samples are collected from the mineralised zone continuously along each wall of the Level Drives. Samples are collected from contiguous 'Panels' of 0.5m height (although the dimensions of each panel will vary, and are reported fully in Table 1). Each advance in the Level Drives is followed by sampling and panning of the face of the Drive to give immediate information regarding the qualitative gold grade of mineralisation, and is followed by sampling of the walls of the Drive in 'panels' to submit for assay.

Panel samples, as opposed to channel samples provide the following benefits:

- Channel samples are not contiguous with one another, and are collected from a narrow vertically cut channel from the floor to the ceiling of the drive;
- Panel samples provide for a larger volume of material to be collected and assayed to obtain a more representative sample of the gold bearing material than either a drill-hole or a channel sample can provide;
- Cascavel is a sub-horizontal mineralised structure (dipping at 30-35° to the south-west). Contiguous panel samples allow for the horizontal sampling of the ore zone in the Drives and subsequent estimation of the range of possible head grades from those parts of the mine.

Despite the advantages of taking a panel sample as opposed to a channel sample, panel samples still represent an insufficient quantity of material to account for the coarse gold effect. Several tonnes would need to be sampled in order to obtain a representative grade from any particular area within the mine. Compare the results of the two corresponding panel samples from Level 0 Central: Right wall 56.6g/t Au while the left wall returned 469g/t Au. These two samples are located approximately 2.2m along plunge from each other and each weighed ~10kg.

Consequently, Orinoco considers panel samples, with the application of an appropriate mining dilution factor, to be the best *guide* to the expected head grade of material mined from the stopes, however they do not present a definitive grade estimate of any area.

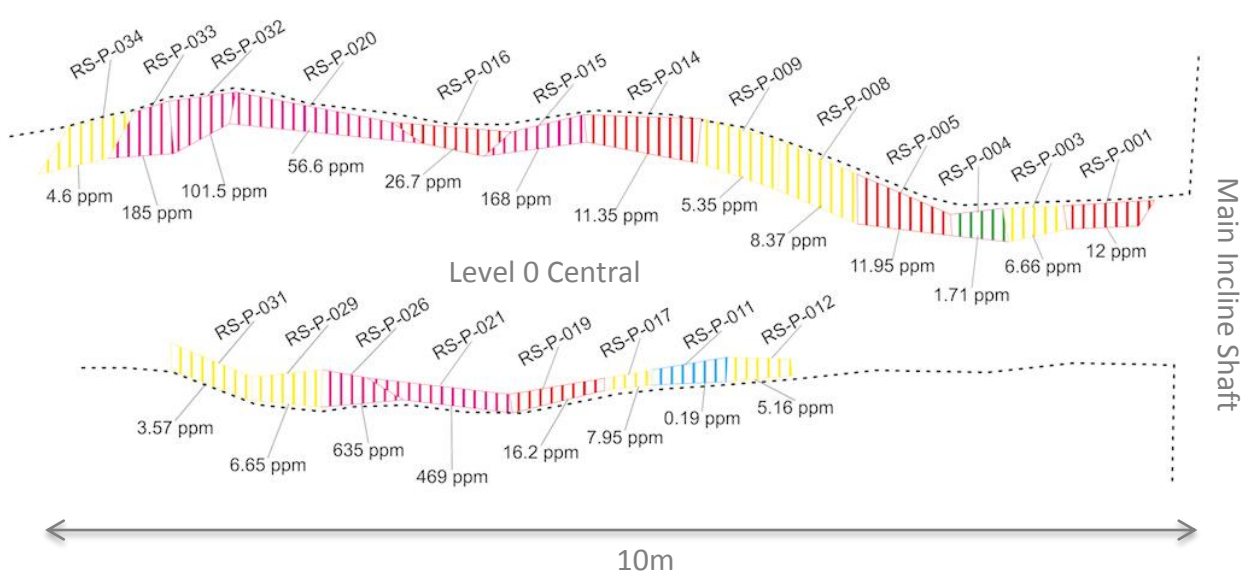
The mineralisation in the Central part of Cascavel is generally around 0.5m to 0.7m thick. Orinoco's planned minimum stope height in a room-and-pillar stope is 1.6m, meaning that reported results in the Central portion of Cascavel would need to be diluted by a factor of approximately three to indicate a potential head grade for material delivered to the mill from a stope in this area.

The mining dilution effect has to be taken into account when assessing the results of the mineralised zone samples discussed in this release.

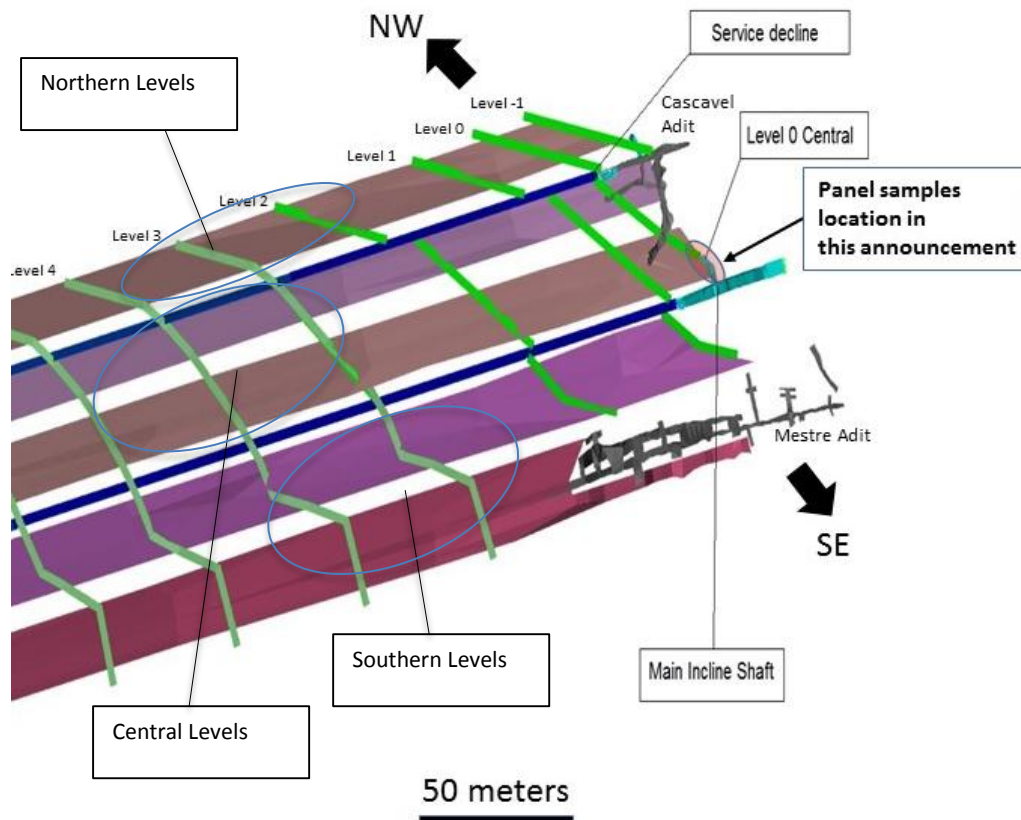




**Figure 5.** Collecting panel samples from a marked-up wall of a level drive.



**Figure 6 – Map of Level 0 Central showing the location of the panel samples.**



**Figure 7 – Initial Mine Plan showing location of Level 0 Central.**

Table 1. Full Results

PID	X	Y	Z	From	To	Length	Au_ppm	Comment
RS-P-001	561528.45	8288116.29	538.63	0.00	0.64	0.64	12.00	Wall Panel Sample
RS-P-002	Blank						<0.05	QA/QC
RS-P-003	561528.31	8288116.91	538.56	0.64	1.11	0.47	6.66	Wall Panel Sample
RS-P-004	561528.13	8288117.34	538.50	1.11	1.53	0.42	1.71	Wall Panel Sample
RS-P-005	561528.01	8288117.74	538.47	1.53	2.30	0.76	11.95	Wall Panel Sample
RS-P-006	561526.93	8288117.32	538.12	0.00	0.00	0.50	1.18	Floor Panel Sample
RS-P-007	Standard (5.49g/t)						5.42	QA/QC
RS-P-008	561527.83	8288118.46	538.65	2.30	2.96	0.67	8.37	Wall Panel Sample
RS-P-009	561527.70	8288119.07	538.90	2.96	3.61	0.65	5.35	Wall Panel Sample
RS-P-010	561526.06	8288119.26	538.62	0.00	0.00	0.50	0.21	Floor Panel Sample
RS-P-011	561524.73	8288118.35	538.38	0.54	1.16	0.62	0.19	Wall Panel Sample
RS-P-012	561525.09	8288117.94	538.32	0.00	0.54	0.54	5.16	Wall Panel Sample
RS-P-013	Blank						<0.05	QA/QC
RS-P-014	561527.49	8288119.65	539.11	3.61	4.64	1.03	11.35	Wall Panel Sample
RS-P-015	561526.79	8288120.36	539.35	4.64	5.39	0.75	168.00	Wall Panel Sample
RS-P-016	561526.21	8288120.83	539.37	5.39	6.12	0.74	26.70	Wall Panel Sample
RS-P-017	561524.34	8288118.82	538.39	1.16	1.55	0.39	7.95	Wall Panel Sample
RS-P-018	Standard (5.49g/t)						5.5	QA/QC
RS-P-019	561524.08	8288119.12	538.38	1.55	2.32	0.77	16.20	Wall Panel Sample
RS-P-020	561525.82	8288121.43	539.53	6.12	7.56	1.44	56.60	Wall Panel Sample
RS-P-021	561523.61	8288119.71	538.31	2.32	3.40	1.08	469.00	Wall Panel Sample
RS-P-025	561524.35	8288123.02	539.01	0.00	0.58	0.58	<0.05	Wall Panel Sample
RS-P-026	561523.19	8288120.00	538.25	3.40	3.86	0.47	635.00	Wall Panel Sample
RS-P-027	561523.91	8288123.36	539.02	0.58	1.12	0.54	0.27	Wall Panel Sample
RS-P-028	Standard (6.60g/t)						6.56	QA/QC
RS-P-029	561522.81	8288120.26	538.19	3.86	4.32	0.46	6.65	Wall Panel Sample
RS-P-030	561523.37	8288123.61	538.97	1.12	1.80	0.68	0.07	Wall Panel Sample
RS-P-031	561522.44	8288120.53	538.13	4.32	4.81	0.49	3.57	Wall Panel Sample
RS-P-032	561524.64	8288122.97	539.72	7.56	8.17	0.61	101.50	Wall Panel Sample
RS-P-033	561524.13	8288123.29	539.70	8.17	8.74	0.57	182.00	Wall Panel Sample
RS-P-034	561523.65	8288123.59	539.68	8.74	9.20	0.46	4.60	Wall Panel Sample
RS-P-035	Blank						0.08	QA/QC



## Section 1 Sampling Techniques and Data

Criteria	Commentary
<i>Sampling techniques</i>	<ul style="list-style-type: none"> <li>Continuous “panel sampling” has been undertaken across the mineralised zone at Cascavel. Panels measuring approximately 0.5m x 0.5m are marked up on the walls of the drives and are contiguous (each panel abutting another panel) along both walls of the decline (or drives) with the sample from each panel being composed of chips collected from the entire area of each panel. The panel samples in the current release Dive 0 North is a section sub-parallel to the strike and almost perpendicular to the dip (the Level 0 cross-cuts sections of the high-grade shoots that dip to the SW).</li> <li>Where a vertical height of more than 0.5m is assessed as requiring sampling, contiguous panels will be cut below or above a panel. Each panel sample (approximately 4-11kg in weight) is crushed/milled/homogenised and split to obtain a 1kg sample in the laboratory and that 1kg sample is submitted for a screen fire assay.</li> <li>Panel sampling has been undertaken along the mineralised vein/s and alteration and screen fire assay has been used to obtain correct grades of each panel. This assay procedure is not only more expensive but needs more time for the lab to screen larger amounts of the samples instead of splitting fractions in an ordinary fire assay procedure. All data is stored in the database following appropriate QA/QC procedures.</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>No logging is reported in this announcement</li> </ul>
<i>Sub-sampling techniques and sample preparation</i>	<ul style="list-style-type: none"> <li>Chip samples went sent to the laboratory without drying or splitting.</li> <li>Blanks and standards are inserted into panel samples batches;</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 mesh. The 150# pulp is quartered and an aliquot of 50g is obtained. This aliquot is analysed by Fire Assay in non-mineralised samples. Metallic Screen Fire Assay is applied if the sample is considered mineralised. Selective samples are analysed in ICP-MS (Inductively Coupled Plasma Atomic Emission Spectrophotometry), with a multi-acid digestion for 32 elements.</li> </ul>
<i>Verification of sampling and assaying</i>	<ul style="list-style-type: none"> <li><b>Standards:</b> (insertion of 1 known standards in each 20 samples approximately): If less than 10% of samples are outside of the expected mean + 2x Std. Dev, the results are validated. If less than 10% of the samples report results 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,</li> </ul>

Criteria	Commentary
	<p>an investigation is required and a re-analysis of the batch is made;</p> <ul style="list-style-type: none"> <li>• <i>Blanks</i> (1 blank insertion in each 20 samples approximately): If less than 5% are 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 Pulp Duplicates.</li> </ul>
<i>Location of data points</i>	<ul style="list-style-type: none"> <li>• The topographic survey on the underground workings has been done by a qualified surveyor using a Total Station (RUIDE), model RTS 822R<sup>3</sup>. The survey uses laser for the location of channels, panels and underground workings.</li> <li>• The grid system used is UTM South American 1969 - Zone 22 S;</li> <li>• The topography crew uses surveyed base stations to guarantee the quality of their surveying.</li> </ul>
<i>Data spacing and distribution</i>	<ul style="list-style-type: none"> <li>• Panel samples are approximately 0.5 x 0.5 metres and continuous along the mineralised zone.</li> </ul>
<i>Orientation of data in relation to geological structure</i>	<ul style="list-style-type: none"> <li>• The data orientation is intended to cover the mineralised zone approximately along strike and down dip. Data is collected from all underground openings</li> </ul>
<i>Sample security</i>	<ul style="list-style-type: none"> <li>• Samples are stored in plastic sample bags, stored in a dedicated secure facility on site prior to transport to the lab.</li> <li>• All laboratory pulps are stored in the storage facility onsite in boxes supplied by the labs, stacked in dry places.</li> </ul>
<i>Audits or reviews</i>	<ul style="list-style-type: none"> <li>• No audit or review has been undertaken regarding the results reported in this announcement.</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% owned 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>The Sertão and Antena mining leases are owned 100% by Orinoco.</li> <li>Some locations within the Cascavel project have archaeological sites that are required to be mapped and photographed prior to removal of the sites.</li> <li>The key Cascavel tenement has a granted trial mining licence for 50.000 tonnes ROM for underground operation, an installation licence for a up to 50.000 tonnes per year gravity crushing and concentration plant and granted Environmental/Archaeological licences.</li> </ul>
<i>Exploration done by other parties</i>	<ul style="list-style-type: none"> <li>This release reports results from underground working at Orinoco's Cascavel Gold mine. No earlier exploration is reported in this release</li> </ul>
<i>Geology</i>	<ul style="list-style-type: none"> <li>CASCADE: Cascavel is best characterised as an Archean shear hosted Orogenic gold system. The structurally controlled mineralised quartz vein/s, veinlets and related sericite alteration evident in the decline and from drilling are continuous both along strike and down-plunge with some minor off-sets caused by later E-W and N-W striking faults (associated with the Tinteiro mineralisation). Visible offsets are no greater than 1m in the walls of the decline. These late faults also cause a slight rotation between the blocks, slightly changing the dip of the veins. Repetition of high grade shoots along the strike has been confirmed by bulk and panel sampling and with visible gold up to 10mm in size evident in the walls of the decline.</li> </ul>
<i>Drill hole Information</i>	<ul style="list-style-type: none"> <li>No drill holes are reported in this announcement.</li> </ul>
<i>Data aggregation methods</i>	<ul style="list-style-type: none"> <li>To composite the panel samples the results were treated as a drill core section. The coordinates of the middle point at the left edge of each panel and vector data of azimuth and dip angles of a middle line in the panels was precisely surveyed. Those lines were used for the from/to data on the assay table. To give the correct weight for the grades in the panels due to minor differences in the length, 0.5 metres was considered 100% and all grades went normalised to this length. The normalised intervals were used to obtain the composite grade for the section.</li> </ul>
<i>Relationship between mineralisation widths and intercept lengths</i>	<ul style="list-style-type: none"> <li>Reported rock chips are single point, selective samples of outcropping lithologies.</li> </ul>
<i>Diagrams</i>	<ul style="list-style-type: none"> <li>Diagrams are attached to the current announcement.</li> </ul>



Criteria	Commentary
<i>Balanced reporting</i>	<ul style="list-style-type: none"> <li>This announcement is a comprehensive report of the results covered by this announcement.</li> </ul>
<i>Other substantive exploration data</i>	<ul style="list-style-type: none"> <li>Only assays for panel samples are reported in this announcement.</li> </ul>
<i>Further work</i>	<ul style="list-style-type: none"> <li>Drilling and ongoing underground development is required to test the identified targets as the mine is developed.</li> </ul>