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## Low Cost Development to commence at Cascavel

Trafford Resources Limited (ASX:TRF) notes that Orinoco Gold Limited (ASX:OGX) informed the market of details on the development plan of the high grade Cascavel Gold Project in Brazil.

The bonanza gold grades and structural information from the Casvavel decline has given Orinoco the confidence to plan the development of the Cascavel Gold Project.

In addition to the development plan, exploration activities at the project continue to identify areas for future expansion.

Trafford currently holds approximately 10.1% direct equity interest in Orinoco Gold Limited.

Orinoco's full ASX announcement is appended.

Ian Finch

Managing Director

**Trafford Resources Limited**



## Low Cost Development & Exploration Upside Highlight Cascavel Opportunity

*Outstanding high-grade results and information from exploration decline pave way for Orinoco to begin planning underground mine and standalone gravity processing plant*

### Highlights

- Orinoco details planned development of its high-grade Cascavel Gold Project, central Brazil.
- Bonanza gold grades and structural information from the Cascavel decline give the Company confidence to plan the development of Cascavel without JORC compliant resource definition.
- Australian specialist narrow lode miners appointed to oversee mine planning and eventual development and mining.
- Initial mine plan to focus on small portion of Cascavel and Mestre areas – 250mx200m
- Ongoing Exploration continues to identify areas for future expansion
- Metallurgical testwork indicates gold recoveries of 80-94% from a simple gravity circuit
  - CAPEX costings for gravity circuit ~US\$5.2M for 40kt/annum name plate capacity.
  - An estimated US\$1.4m for underground development (all development on vein-set)
- The Company's current extraction permit allows underground mining activities.
- Cascavel Mining Lease application to be submitted in November 2014 to facilitate future open pit mining.
- Orinoco and Cleveland Mining (ASX: CDG) have agreed to discontinue arrangements under the previously announced contract mining and toll treatment arrangement.

### Orinoco details plans for development of its high-grade Cascavel Gold Project, central Brazil.

Orinoco Gold Limited (ASX: OGX) is pleased to advise that, as a result of the outstanding high-grade results and excellent geological information flowing from the exploration decline at its **Cascavel Gold Project** (OGX 70%) in central Brazil, it has been able to detail a development strategy aimed at bringing a low-cost, standalone mining and processing operation into production as soon as suitable funding has been secured.

The new development strategy is based on independently establishing an initial ~40,000tpa gravity circuit, currently planned to be located on the Company's existing Mining Lease at the nearby

Sertão Gold Mine, ~28km by road, and processing high-grade ore from Cascavel.

Orinoco is now well placed to make the all-important transition from explorer to producer once Project Finance is sourced, and to pursue its longer-term goal of growing a high-grade resource inventory and developing a substantial gold production centre within its broader Faina Goldfields Project in the State of Goiás in central Brazil.

**NOTE:** *No specific gold production targets for Cascavel can currently be quoted as Cascavel does not have a JORC compliant resource.*

**Bonanza gold grades and excellent structural information from the Cascavel decline give the Company confidence to commence development without JORC compliant resource definition.**

The outstanding results flowing from the exploration decline in recent months have given the Company sufficient information and confidence in the geology of the mineralisation at Cascavel to conclude that an underground mine feeding a simple gravity gold extraction plant located nearby is the best way to unlock the value of the deposit in the short-term.

While the coarse nature of the gold offers many advantages in terms of low-cost processing and recovery, it does make the task of resource estimation within the JORC code prohibitively expensive. This is due to the very coarse nature of the gold (80% > 100microns) and the small volume of sample that can be collected through diamond drilling (approximately 8kg/m HQ core). Drilling provides a highly effective measure of the geological continuity of the Cascavel system but is not particularly useful for grade estimation in such high-grade, coarse gold systems. Given the difficulty and expense of defining JORC compliant resource through drilling in systems such as Cascavel the Company is of the view that that low cost gold production is the best way to create shareholder value.

**Australian specialist narrow lode miners appointed to oversee mine design and eventual development and mining**

The Company has engaged **Australian Resources Contracting**, who are narrow vein mining specialists based in Perth to oversee initial designs for the underground operation and to have an ongoing role in supervision as mining proceeds. Design work is expected to be finalised in Q1 2015, development on the vein-set and continued stockpiling of ore is able to commence as soon as funding permits. Furthermore underground mining contractors specialising in narrow stoping have been identified in Brazil and it is planned they will be contracted to complete the actual mining. The initial focus of the mine plan will be to maximise the grade of any ore delivered to the mill.

**Initial mine plan to focus on small portion of Cascavel and Mestre areas - ~200mx250m**

The initial mine plan will encompass only a small portion of the Cascavel and Mestre areas, where limited historical mining and the Company's exploration decline has opened up access to high grade shoots Figure 1. This area has been tested by diamond drilling, which enables accurate location of the vein system and also contains the current Cascavel exploration decline (figure 1).

Bulk sampling and the ongoing exploration decline at Cascavel have shown that most of the gold mineralisation at Cascavel is contained in high-grade gold shoots (e.g. 15m @ 88g/t gold – see ASX Announcement, 21/10/14). Other bulk samples from the Cuca winze (350m north) and the nearby Mestre winze (90m south) have recorded grades of 27g/t (2.8tonnes) and 39g/t (500kgs) gold respectively.

Drilling and exploration along strike from Cascavel indicates that the gold-bearing structures have considerable continuity, with gold mineralisation shown to be occurring at multiple points over more than 3km immediately along strike from Cascavel, and on the same generation of mineralised shear zones 18km to the South at the Sertão Gold Mine. Remarkably the shear zones have similar features at both localities where a central quartz  $\pm$  carbonate veinset is found within a well developed muscovite – biotite alteration envelope. Importantly there is a very strong penetrative mineral stretching lineation spatially related to these shear zones and the high grade gold shoots are developed parallel to the stretching lineation.

Similarly, the down-plunge continuity of the gold-bearing structures has been demonstrated in drilling at both Cascavel and Sertão to over 600m down-dip – and remains open.

Regionally, this high level of continuity is a common feature of the shear zone hosted gold deposits in the State, with both Anglo Gold Ashanti and Yamana Gold having multi-million ounce resources in similar structures.

The evidence for mineralisation in and around the Cascavel area gives the Company great confidence that it can rapidly grow the potential of the Faina Goldfields Project.

**Metallurgical testwork indicates gold recoveries of between 80 - 94% from a simple gravity circuit - CAPEX costings for gravity plant with name plate capacity of 40kt/annum and mine establishment estimated at US\$6.6m**

The total plant and equipment component for the contemplated 40,000tpa operation is estimated at a relatively modest US\$1.4 million for a gravity-only operation and contains no long lead items. The total capital cost for the installed and commissioned gravity circuit is estimated at US\$5.2m while the total pre-production expenditure is estimated at US\$6.6m.

The low capital cost is largely attributable to the fact that gold recoveries of more than 80 per cent (and up to 94%) have been achieved in metallurgical testing from Cascavel ore using a simple gravity circuit with no cyanide or involved.

The Company is currently in discussions with several parties regarding appropriate debt funding options for the financing of the Project, and will be in a position to commence ordering equipment subject to securing a suitable funding package. Project timings will be able to be provided at the completion of the appropriate funding, however it is anticipated to take approximately seven months from the ordering of locally sourced equipment to install and commission the gravity circuit.



**The Company's current extraction permit allows underground mining activities, enabling it to proceed with underground mine development at any point**

The proposed development pathway will utilise the Company's existing underground extraction licence at Cascavel (secured earlier this year to facilitate the exploration decline) to selectively mine the currently identified high-grade shoots. Installation of plant and equipment onsite is able to commence at any point, and administrative work is currently being completed to return the environmental licence at the Sertão Gold Mine to operational status (expected Q1 2015).

**Cascavel Mining Lease application to be submitted in November 2014 to facilitate future open pit mining**

An application for a full Mining Lease at Cascavel will be lodged in November 2014. The Cascavel Mining Lease application will include plans for the installation at Cascavel of a larger capacity gravity circuit with an associated CIL circuit which metallurgical testing has shown should allow recovery of over 98 per cent of the gold in ore at Cascavel.

**Orinoco and Cleveland Mining (ASX: CDG) have agreed to discontinue arrangements under the previously announced contract mining and toll treatment arrangement.**

In light of the Company's own development strategy, Orinoco has reached agreement with fellow Brazilian gold miner Cleveland Mining Limited (ASX: CDG) to discontinue discussions under the previously announced contract mining and toll treatment arrangement. Under this arrangement, Cascavel would have been developed by Cleveland with ore carted for processing at Cleveland's Premier Gold Mine, located 120km away. Cleveland's core mining competency is open pit mining, and the timing of Orinoco obtaining an open pit licence at Cascavel is not currently known.

**Management Comment**

Orinoco's Managing Director, Mr Mark Papendieck, said the detailing of a standalone mining and processing operation at Cascavel represented a logical and cost effective extension of the bulk sampling and exploration decline strategy employed this year.

"As result of the success of the exploration decline, we now have a clear picture of how best to unlock the Cascavel deposit," he said. "Given that we now have a much clearer picture of the geometry and distribution of the high-grade mineralisation, it is clear to us that moving to a selective underground mining scenario feeding our own low-cost gravity plant represents by far the best outcome for shareholders.

"For a relatively small project expenditure estimated at US\$6.6 million, we can install and fully commission a 40,000tpa gravity circuit and develop an underground mine with the assistance of expert underground mining contractors. Given the fact that mineralisation outcrops and that we have completed extensive sampling and evaluation of the mineralised zone from the decline, we believe this represents an attractive, low-risk development pathway.

“Execution of this detailed strategy upon sourcing the appropriate Project Finance will enable us to make the transition to production, with low-cost operations creating a strong platform for our longer term growth ambitions.

“Orinoco has already built a highly skilled and respected exploration, development and commercial team that has the capability to keep making discoveries and expanding our Project Portfolio and to transform Orinoco into a mid-tier producer,” Mr Papendieck added. “Once we have made that important transition to producer, our objective will be to prove that known mineral systems in the Faina Goldfields Project have the potential to be contributors to a future production profile.

“While we are confident that these aims can be achieved through organic exploration success, appropriate acquisitions that may complement and add to the near-term production opportunities offered by the Faina Goldfields Project will also be considered,” he said.

**NOTE:** No specific gold production targets for Cascavel can currently be quoted as Cascavel does not have a JORC compliant resource.

-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 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.

**Previous Reported Results:** There is information in this report relating to Exploration Results at Cascavel. Full details of the Results were included in the following ASX Release and are available to view on the Company's website [www.orinocogold.com](http://www.orinocogold.com):

1. 21 August 2014 – Further highgrade Results from Exploration Decline
2. 23 October 2014 – Cascavel: More Bonanza Results Extend Current High Grade Zone to 15m @ 88g/t Au
3. 14 May 2014 - "Outstanding Gold Grade from Latest Cascavel Bulk Sample"
4. 7 July 2014 – Bonanza Gold Results up to 27 oz/tonne from Cascavel Exploration Decline
5. 14 May 2014 - Outstanding Gold Grade from Latest Cascavel Bulk Sample
6. 20 January 2014 - Successful Bulk Sampling Highlights the Opportunity for High Grade Development at Cascavel Gold Project.
7. 8 October 2012 - High-Grade Gold Results Returned From Curral De Pedra Project, Brazil
8. 12 December 2012 - Hits of up to 193gpt Au confirm mineralisation over 620m down dip

The Company confirms that it is not aware of any new information or data that materially affects the information included in the original market announcements and that all material assumptions and technical parameters underpinning the Exploration Results in the relevant market announcement continue to apply and have not materially changed. The Company confirms that the form and context in which the Competent Person's findings are presented have not been materially modified from the original market announcement.

**Forward-Looking Statements:**

*This Announcement includes "forward-looking statements" as that term within the meaning of securities laws of applicable jurisdictions. Forward-looking statements involve known and unknown risks, uncertainties and other factors that are in some cases beyond Orinoco Gold Limited's control. These forward-looking statements include, but are not limited to, all statements other than statements of historical facts contained in this presentation, including, without limitation, those regarding Orinoco Gold Limited's future expectations. Readers can identify forward-looking statements by terminology such as "aim," "anticipate," "assume," "believe," "continue," "could," "estimate," "expect," "forecast," "intend," "may," "plan," "potential," "predict," "project," "risk," "should," "will" or "would" and other similar expressions. Risks, uncertainties and other factors may cause Orinoco Gold Limited's actual results, performance, production or achievements to differ materially from those expressed or implied by the forward-looking statements (and from past results, performance or achievements). These factors include, but are not limited to, the failure to complete and commission the mine facilities, processing plant and related infrastructure in the time frame and within estimated costs currently planned; variations in global demand and price for coal and base metal materials; fluctuations in exchange rates between the U.S. Dollar, the Brazilian Real and the Australian dollar; the failure of Orinoco Gold Limited's suppliers, service providers and partners to fulfil their obligations under construction, supply and other agreements; unforeseen geological, physical or meteorological conditions, natural disasters or cyclones; changes in the regulatory environment, industrial disputes, labour shortages, political and other factors; the inability to obtain additional financing, if required, on commercially suitable terms; and global and regional economic conditions. Readers are cautioned not to place undue reliance on forward-looking statements. The information concerning possible production in this announcement is not intended to be a forecast. They are internally generated goals set by the board of directors of Orinoco Gold Limited. The ability of the company to achieve any targets will be largely determined by the company's ability to secure adequate funding, implement mining plans, resolve logistical issues associated with mining and enter into any necessary off take arrangements with reputable third parties. Although Orinoco Gold Limited believes that its expectations reflected in these forward-looking statements are reasonable, such statements involve risks and uncertainties and no assurance can be given that actual results will be consistent with these forward-looking statements.*

*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.*





**Figure 1.** Area of initial mining. Plan view.





## Section 1 Sampling Techniques and Data

Criteria	Commentary
<i>Sampling techniques</i>	<ul style="list-style-type: none"> <li>• <i>Chip sampling:</i> sampling has been conducted on site following pre-determined selective sections that target rock types, structural and geophysical features. Samples are collected from in-situ outcrops, chipped with a geo pic and bagged in plastic bags with weights between 3-5kg. Samples are bagged in double bags with number codes and a short description of the sampling place (e.g. rock type, features, alteration). All data is stored in a geological database following appropriate QA/QC procedures.</li> <li>• 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 reported in this announcement.</li> </ul>
<i>Drill sample recovery</i>	<ul style="list-style-type: none"> <li>• No drilling reported in this announcement.</li> </ul>
<i>Logging</i>	<ul style="list-style-type: none"> <li>• All chip samples have a brief description recorded in the database and are preferentially used to recognize geochemical anomalies. The geological description is recorded on a card brochure and lodged on the sampling table in the data base.</li> </ul>
<i>Sub-sampling techniques and sample preparation</i>	<ul style="list-style-type: none"> <li>• Chip samples are sent to the laboratory without drying or splitting.</li> <li>• Blanks and standards are inserted into chip samples batches.</li> </ul>
<i>Quality of assay data and laboratory tests</i>	<ul style="list-style-type: none"> <li>• All assay results are verified, with the reported intersections being selected with a 0.2 g/t cut-off grade;</li> <li>• The data entry and storage of physical data is made on site at the project and the data is stored electronically. All samples have been assayed at ALS Brazil;</li> <li>• At the ALS 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-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-acid digestion for 32 elements.</li> </ul>
<i>Verification of sampling and assaying</i>	<ul style="list-style-type: none"> <li>• <i>Standards:</i> (insertion of different standards in each 30 samples approximately): If less than 10% are 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>• <i>Blanks</i> (insertion in each 30 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>• <i>Duplicates</i> (insertion in each 20 samples – Bias control): Project Duplicates are core quarter and Lab duplicates are Gravel and Pulp Duplicates.</li> </ul>
<i>Location of data points</i>	<ul style="list-style-type: none"> <li>• Chip samples are located with a hand held GPS</li> <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>

Criteria	Commentary
<i>Data spacing and distribution</i>	<ul style="list-style-type: none"> <li>Rock chip samples are selective samples of outcrop.</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 lithological or structural targets.</li> </ul>
<i>Sample security</i>	<ul style="list-style-type: none"> <li>Samples are stored in plastic sample bags, stored in the core shed on site prior to transport to the lab.</li> <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>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 Tinteiro 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 being acquired 100% by Orinoco, but the acquisition remains subject to previously announced conditions precedent.</li> <li>Orinoco is earning up to a 75% stake in the Tenements on which Targets 1, 2 and 3 are located.</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 Tinteiro tenements are granted exploration leases.</li> </ul>
<i>Exploration done by other parties</i>	<ul style="list-style-type: none"> <li>Exploration for oxide gold deposits was well developed through the belt during the last 20 years, in different cycles and by different companies, however no exploration of IOCG systems is recorded to have taken place. A reasonable amount of surface exploration has been 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>

Criteria	Commentary
<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 style is also varied on the belt. Most of the gold mineralisation can be classified as Orogenic, mainly hosted in chemical and volcanoclastic sedimentary units. The following models are considered relevant: Shear Hosted (Orogenic) associated with carbonaceous/BIF hosts, mafic volcanic and volcanoclastic units. Paleo-Placer/Conglomerate Hosted: associated with meta-conglomerates within the Proterozoic (Paleo?) transgressive clastic sequence. 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 has been interpreted as a carbonate replacement deposit due to the strong relationship to the impure limestone unit and crosscutting faults. Tinteiro Target shows features so far interpreted as being related to a late IOCG system.</li> <li>Polymetallic mineralisation at Tinteiro: silver/tungsten/copper is interpreted as a carbonate replacement mineralization type that overlaps parts of the Cascavel Orogenic style mineralization 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> <li>The mineralisation of copper/gold/silver and other metals at Tinteiro is associated with zones of mainly hydrothermal sericite, hematite and magnetite alteration that are associated with regional and potentially deep crustal faults systems showing several non-deformed mafic alkaline to felsic intrusions. These mineralised faults have been mapped and sampled over an area of approximately 7km x 4km to date.</li> </ul>
<i>Drill hole Information</i>	<ul style="list-style-type: none"> <li>No drilling reported in this announcement.</li> </ul>
<i>Data aggregation methods</i>	<ul style="list-style-type: none"> <li>No data aggregation methods reported in this announcement</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>
<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 rock chips are reported in this announcement.</li> </ul>
<i>Further work</i>	<ul style="list-style-type: none"> <li>Drilling is required to test the identified targets at depth.</li> </ul>