



December 2016 Quarterly Report

Cascavel Project

- Operations at Cascavel suspended in October due to insufficient working capital being available to complete additional essential mine development and plant optimisation;
- Independent third-party reviews of operations were conducted by Mining Plus and SRK Consulting;
- Key issues and areas of improvement identified in the diagnostic review process included:
 - Improved access to and development required in the higher grade southern portion of the mine;
 - Improvements to underground material handling and haulage traffic controls;
 - Implementation of improved mining & blasting techniques to reduce dilution;
 - Acquisition of further data to define a new detailed long-term mine plan;
 - Additional training of process plant personnel to improve recoveries;
 - Potential additional grind capacity to improve gold liberation;
 - Need for in-house assay laboratory;
 - Sufficient working capital buffer to manage the ongoing operations.
- A plan to recommence operations has been developed and is being costed at a high level, with detailed planning now underway.

Corporate

- Restructure of the gold stream financing agreement with Cartesian Royalty Holdings (CRH).
- 4-for-7 non-renounceable entitlement offer launched at 7c per share plus a free option to raise up to \$12.2M.
- Capital raising is part of a broader funding package, supported by the Company's major shareholders and financiers, which includes convertible loans totalling \$2.1M.
- Nicholas Revell, Technical Director with Tyranna Resources (ASX: TYX), appointed a Non-Executive Director of Orinoco.

CASCAVEL GOLD MINE, Brazil (Orinoco: 70%)

Following completion of the first gold shipment from the Cascavel gold mine last quarter, Orinoco reviewed the performance of the mine and processing plant for the first two months of commissioning and operations (August and September).

With insufficient high grade ore being mined to generate positive cash flow in the immediate future due to limited access to the high-grade mining fronts combined with recovery issues in the processing plant, the board and management determined that it was in the best interests of all stakeholders to temporarily suspend operations and stand down non-essential staff and contractors while a full technical review was undertaken and the issues resolved.

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ASX Code

OGX
(Ordinary Shares)
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(Listed Options)

Issued Capital

316,900,945 Ordinary Shares
66,134,131 Options

The key components of the plan to re-commence operations at Cascavel include:

- Increasing the amount of high-grade ore being delivered to the processing plant by revising the mine plan to open up more development in the higher grade southern portions of the mine;
- Reducing dilution with improved mining and blasting techniques;
- Improving gold recoveries by enhancing the liberation of gold from the ore;
- Providing additional training to plant employees; and
- Increasing the amount of working capital buffer available to the Company.

The Company is also in the process of finalising arrangements to bring all assay laboratory functions to site to allow for faster turnaround with improved quality of assays for mine grade control functions and to more efficiently monitor processing plant functions to improve recoveries. Until now, samples have had to be dispatched off-site to a non-certified laboratory for assay due to licence restrictions regarding the use of cyanide and acids on site.

Having access to an on-site assay laboratory will also result in vastly improved response times in terms of managing and blending ore feed streams and reacting to variations in metallurgy and recovery across the ore body.

Cascavel Gold Mine – Independent Technical Reviews

SRK Consulting (Denver) and Mining Plus (Vancouver and Lima) visited the Cascavel site during November to complete independent technical reviews of the mining operation. These reviews were commissioned to assist Orinoco with a detailed evaluation of the current status of the Cascavel Project and to determine the best path for restarting operations. SRK was appointed by Cartesian Royalty Holdings, and Mining Plus was appointed by Orinoco.

An Orinoco Board Technical Committee, comprising Non-Executive Directors Brian Thomas and Jonathan Challis, is overseeing the reviews and the development of the re-commencement plan.

The work included conducting a review of geology, mining methods, support systems, ore handling, plant operations, security, project management and any other factors that may negatively impact gold production, as well as presenting recommendations that should lead to improved productivity in a restart of operations.

These independent diagnostic reviews have now been completed, with both reviews indicating that the plant and mine issues encountered during commissioning can be readily resolved.

Overall, Mining Plus stated: “The issues observed at the Cascavel Mine are common start-up and commission(ing) problems, and we identified no fundamental problems that should impede the mine from achieving success.”

Key issues and areas of improvements identified in the review process included:

- Acquisition of further data, including from recently concluded drilling and ongoing bulk sampling campaign to define a new detailed mine plan;
- A focus on identifying refined mining methods using access to existing infrastructure;
- Implementation of modified mining and blasting techniques;
- Further mine development in the higher grade southern portion of the mine, with several potential development options being assessed;
- Consideration of new underground equipment for use in the mine operation;
- Improved management of water flows in the mine; and
- Improvements to underground material handling and haulage traffic controls.

The reports, by SRK Consulting and Mining Plus, concluded that the lack of an adequate working capital buffer was a key factor curtailing the commissioning and ramp-up process. The reports provide a number of recommendations to address the plant and gold recovery issues, increase the availability of high-grade ore from the mine and provide a strong basis to re-establish mining and processing operations in the near term.

Orinoco is currently working with Mining Plus to develop and finalise a re-commencement plan that will see Cascavel operational again as soon as possible. The headline plan to recommence operations has been developed and is being costed at a high level, with detailed planning now underway.

Orinoco is currently working with Mining Plus and Gekko Systems to finalise any required modifications to the processing circuit. The Company also intends on appointing an experienced production executive to oversee this process.

The suspension of mining activities will also enable the Company's recently appointed mining engineer to define a new detailed mine plan including better access to the high grade south end of the mine to ensure a higher grade blend of ore feed to the plant when operations re-commence.

The Company's view is that material sourced solely from the more accessible lower grade northern area of the mine will not by itself allow the Company to generate sufficient operating cash-flow at the previous scale of operations and that production material from stopes in the south of the mine is required for blending.

The relatively small amount of production material processed to date from high-grade stopes throughout the mine (91% of material processed has been mineralised waste or development material) has been estimated to have head grades of between 12 and 17g/t gold, depending on the stope.

Whilst development material is normally treated as waste in most mines, the majority of development at Cascavel has taken place on the mineralised zone due to the prohibitive cost of off-ore development. This results in 'mineralised waste' or 'development material' being available for processing with the grade of the material varying from 0.5g/t to 6g/t depending on the portion of the mine in which the development took place.

The review noted that no evidence of large scale theft from the site exists – a view also held by Orinoco.

Cascavel – Operational Developments Post-Suspension of Operations

A further 6kg of gold was recovered and poured from the material processed during the two months of commissioning and ramp-up, taking total gold recovered from this two month period to 13kg. The average (mean) of tailings assays from this period was 4.12g/t. The majority (92%) of material processed during August and September was mineralised waste or development material. The tailings are dry stacked, and are likely to be re-processed to recover the contained gravity recoverable gold.

While lead from poor quality misfiring detonators used by the previous mining contractor was still present in the ore being fed into the circuit, Orinoco has successfully made adjustments to its smelting (and fluxing) process to remove the lead from the concentrate. The gold content of the last gold pour was 89%.

Processing

Gekko Systems and Mining Plus will be on site again in late January to further test the assumptions being made in the resumption plan and to conduct further assessments of the need to add grinding capability to the comminution circuit. Bulk samples have been sent to a North American laboratory for further confirmatory metallurgical test work, including particle size distribution analysis.

The first stage of processing improvements will involve minimal capital expenditure and is focused on incremental improvements to the existing processing plant. These are focused on minimising the amount of gold re-circulated and improving plant recovery. This process will be assisted by further plant testing and the gathering of representative operational data for ongoing analysis.

This work will be undertaken in parallel with a series of technical measures and operator training also aimed at improving the plant's performance.

As outlined above, plans are also being finalised to set up an Orinoco-owned and managed near-site laboratory. Having such a facility available will greatly assist the Company in the timely turn-around of accurate assays for both the mine and the plant. Due to licensing restrictions, the Company previously had to utilise a state-owned facility located 300km from site.

Mine

The new mine design has been largely completed and a modified mining method has been selected for trialling. As funds and personnel permit, trials of the selected mining method and new explosives will commence in the March 2017 Quarter with detailed geotechnical input to the design to be refined in conjunction with these trials.

In addition to the bulk sampling discussed in the ASX announcement dated 16 December, new geological sampling has been carried out throughout the entire mine to enable new grade estimates to be included in mining plan.

A variation of the previously utilised room-and-pillar mining method – referred to as “Drift and Slash” – is being proposed as this method will provide a blend of ore production from drifting and low cost/high productivity slashing.

This method is well suited to the geometry of the mineralised body, including the potential for variable grades and thickness, has a scalable production rate, good flexibility to change to an alternative mining method in the future, will require minimal capital expenditure in the short term and is well suited to local labour’s skill and experience.

Importantly, the new mine design is considering a substantially higher mining rate than the original mine design of 3,500t per month. The current processing circuit at Cascavel has the capacity to process ~8,000t per month.

Bulk Sampling

Bulk sampling tests were undertaken during November on the Cascavel mineralisation for metallurgical purposes.

Five samples of the mineralised vein and selvedge ranging from 120kg to over 200kg were taken from various medium and high grade sections of the mine in order to re-test the gravity recovery characteristics of the ore. After grinding the samples in the Company’s prep-lab, a small split of the samples was sent for assay and the rest of the samples were then processed directly on the Gemini shaking table.

This simple testwork was found to recover approximately 93% of the contained gold, confirming again the gravity recoverability of the ore. The grade of the samples ranged from 50.42 g/t to 478.63 g/t. To consider these results from a mining perspective, a dilution factor of up to 10 should be applied to these grades.

Drilling

As announced on 18 August 2016, a small mine definition drilling program of 2,000m was undertaken to improve mine design. The last hole completed in the campaign was designed to test the down-plunge extent of Cascavel, and intersected the mineralised zone 1.2km down plunge at a vertical depth of 380m.

This hole, CDP 052, represents the deepest hole drilled down plunge at Cascavel to date and contained a 3m package of quartz veins and sulphides related to gold mineralisation. The drill program was suspended along with other operations at Cascavel and once a decision regarding the remainder of the programme is made in the context of the current review process the programme will be concluded and the core sent for assay at a certified laboratory.

Cascavel Funding Package

Entitlement Offer

Under the Entitlement Offer announced during the Quarter, existing eligible shareholders will have the opportunity to subscribe for four (4) fully-paid ordinary share for every seven (7) shares held on the record date at an issue price of 7 cents per share to raise up to approximately A\$12.2 million (gross proceeds) (“Entitlement Offer”).

Eligible shareholders will be entitled to receive one (1) free option (“Options”) for every one (1) share subscribed for under the Entitlement Offer. The Options (to be listed on ASX) will be exercisable at 11 cents and will expire on 31 January 2020.

Convertible Loans

As announced on 28 November 2016, the Company has finalised short-term funding with the support of existing large shareholders. A series of convertible loans totalling approximately \$2.1 million have been entered into (of which \$1.95 million has been received to date) that are repayable in shares and options to be issued as part of the Entitlement Offer outlined above.

The key terms of the loans are as follows:

- The term is earlier of 6 months from draw-down or conversion into shares as part of a capital raising;
- The loan advance amount is repayable in shares, or in cash at end of term. The number of shares is calculated by dividing the loan outstanding amount by the share issue price. The share issue price will be the lower of the issue price of shares under the capital raising or the 15-day Volume Weighted Average Price (VWAP) immediately prior to the closing of the capital raising, whichever is the lower (subject to any required shareholder approvals). In the event of the capital raising taking the form of a ‘rights entitlement’, the closing date shall be the closing date of that rights entitlement issue;
- Annual interest rate of 10%, calculated daily; and
- Lender to receive additional options so that the total number of options received equals the number of shares received. The additional options will be issued subject to the Company’s LR7.1 15% capacity being renewed via a shareholder meeting and the loan provider paying 0.1c per option.

Gold Stream Restructure

As announced on 28 November 2016, the Company reached in-principle agreement with its key financiers, Cartesian Royalty Holdings (CRH), to replace the milestone/date default clause contained in the gold stream agreement. New variation deeds have now been agreed that allow the Company sufficient time to complete the necessary independent operations reviews and remedial action planning to allow it to recommence operations.

Please refer to ASX announcement of December 9 for the material terms of the variation deeds.

Management Changes

As part of the Company’s plan to recommence operations, several new senior appointments will be made in the coming months, including a new General Manager Operations and other necessary senior site staff.

With the suspension of operations, a large portion of the workforce has been retrenched and a re-start of operations will necessitate the recruitment of new staff to fill the required roles. A number of other operational and management changes will be made once the capital raising is completed.

-ENDS-

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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 gold 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 and resolve logistical issues associated with mining. 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. No JORC Mineral Resources or Reserves have been estimated for the Cascavel Gold Mine.

Interests in Mining Tenements (Fourth Quarter):

Tenement	Project	Type of Tenement	Location	Held at end of Quarter	Acquired during the quarter	Disposed of during the quarter
860167/2007	CASCAVEL	Exploration Permit	Faina - Brazil	70%	-	-
860205/2014		Joint Venture Application Claim		70%	-	-
860206/2014		Joint Venture Application Claim		70%	-	-
861501/2014		Joint Venture Exploration Permit		70%	-	-
861586/2009		Exploration Permit		70%	-	-
860051/2012	REGIONAL	Exploration Permit	Faina - Brazil	70%	-	-
860069/2010		Exploration Permit		80%	-	-
860188/2012		Joint Venture Exploration Permit		70%	-	-
860193/2011		Exploration Permit		80%	-	-
860404/2013		Exploration Permit		70%	-	-
860600/2011		Exploration Permit		70%	-	-
860683/2016		Application Claim		80%	-	-
860684/2016		Application Claim		80%	-	-
860685/2016		Application Claim		80%	-	-
860686/2016		Application Claim		80%	-	-
860856/2012		Joint Venture Exploration Permit		70%	-	-
860947/2010		Exploration Permit		-	-	80%
860948/2010		Exploration Permit		-	-	80%
860964/2010		Exploration Permit		-	-	80%
860988/2010		Exploration Permit		-	-	80%
860995/2016		Application Claim		100%	-	-
861359/2015		Exploration Permit		70%	-	-
861360/2015		Exploration Permit		70%	-	-
861389/2016		Application Claim		-	80%	-
861391/2016		Application Claim		-	80%	-
861392/2016		Application Claim		-	80%	-
861393/2016		Application Claim		-	80%	-
861917/2013		Exploration Permit		70%	-	-
861918/2013		Exploration Permit		70%	-	-
760742/1996		SERTÃO		Mine Concession	Faina - Brazil	100%
860096/1986	Mine Concession		100%	-		-
860368/1995	Mine Concession		100%	-		-
861194/2016	Application Claim		100%	-		-
861414/2016	Application Claim		-	70%		-