



ASX/Media Release – 08 August 2017

## Orinoco Completes Low-Capital Cost Modifications to Cascavel Process Plant Ahead of Restart

### Key Points:

- **Low capital cost process plant modifications completed.**
- **500-tonne trial parcel successfully processed.**
- **Improved Particle Size Distribution achieved.**
- **Sluice Box recovering gold otherwise lost to tailings.**
- **Processing operations set to restart later this quarter.**

Orinoco Gold Limited (ASX: OGX) (**Orinoco** or **Company**) is pleased to advise that it has completed the previously announced low capital cost modifications to the processing plant at the Cascavel Gold Mine (**Cascavel**). A 500-tonne trial parcel of low-grade ore has been successfully processed to assess the impacts of the modifications, with positive results.

### **Modifications completed**

The modifications completed consisted of:

- Replacement of screen deck panels with smaller aperture panels; and
- Fabrication and installation of a Sluice Box.

In addition, the primary and secondary crusher jaw gaps were reduced.

### **Replacement of Screen Deck Panels**

The two (2) panel screen deck used during processing operations in 2016 was equipped with:

- An upper deck screen panel with 8.0mm x 25.5mm apertures; and
- A lower deck screen panel with 1.6mm x 12.4mm apertures.

As demonstrated by the Hazen testwork (see Figure 1 below and ASX announcement dated 01 June 2017), a smaller particle size distribution (**PSD**) results in improved gold recovery.

In line with the advice received from the Company's metallurgical consultant, Mining Plus, the panels on both the upper and lower screen decks were changed out for smaller aperture panels with the aim of producing a finer product, with an improved PSD, to the gravity recovery circuit.

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### **ASX Code**

**OGX**  
(Ordinary Shares)  
**OGXOC & OGXOD**  
(Listed Options)

### **Issued Capital**

497,635,459 Ordinary Shares  
265,592,401 Options

The change-out occurred in two (2) phases:

- The upper screen deck panel was changed to a 5mm small dimension in June; and
- The lower screen deck panel was changed to 1.2mm small dimension in July.

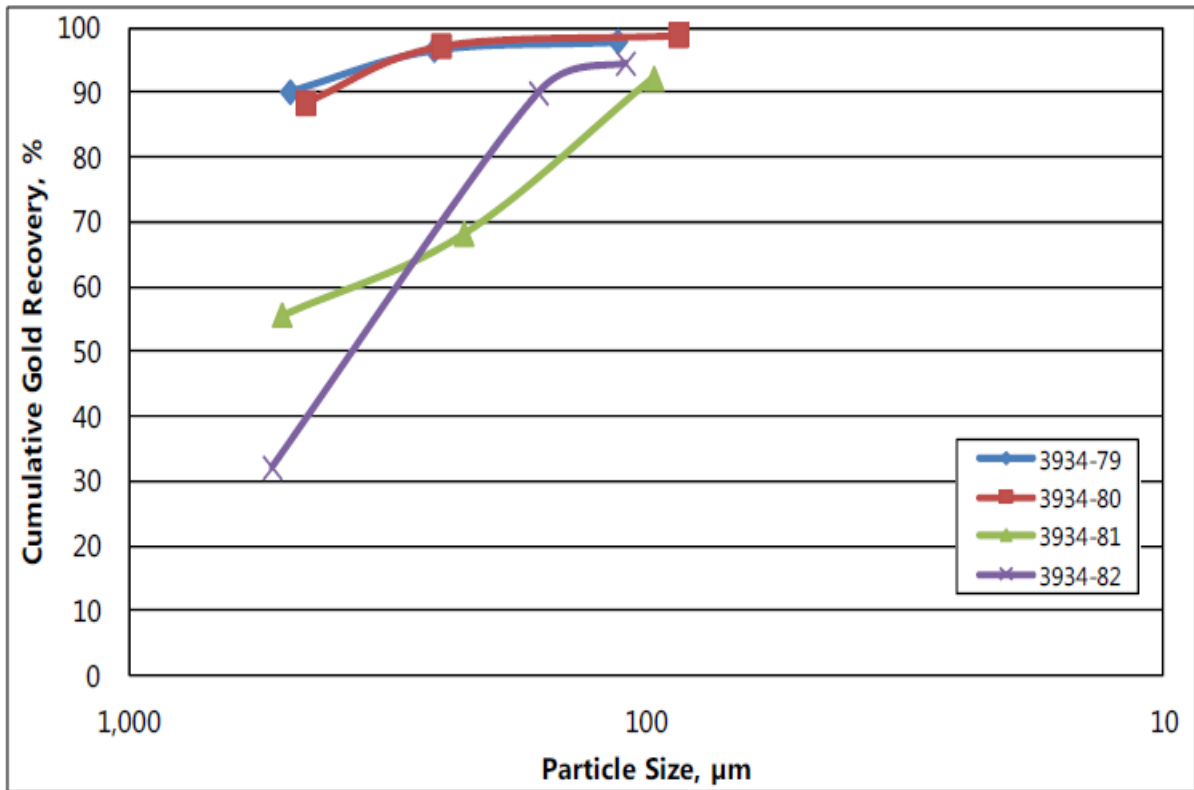
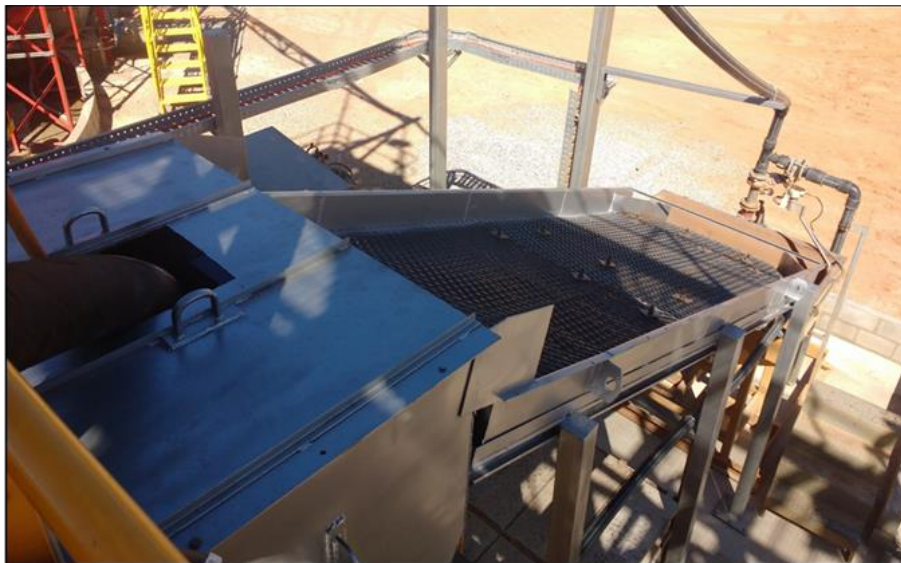


Figure 1: Cumulative Gold Recovery as a Function of Grind Size

### Fabrication and Installation of Sluice Box

In line with the advice received from the Company’s metallurgical consultant, Mining Plus, a sluice box was fabricated and installed (see Pictures 1 and Picture 2) into the Knelson concentrator tailings line as a final capture point for any gold prior to the tailings being discharged to the dewatering biers.



Picture 1: Sluice Box Installed



**Picture 2: Sluice Box in operation**

### **500-tonne trial parcel**

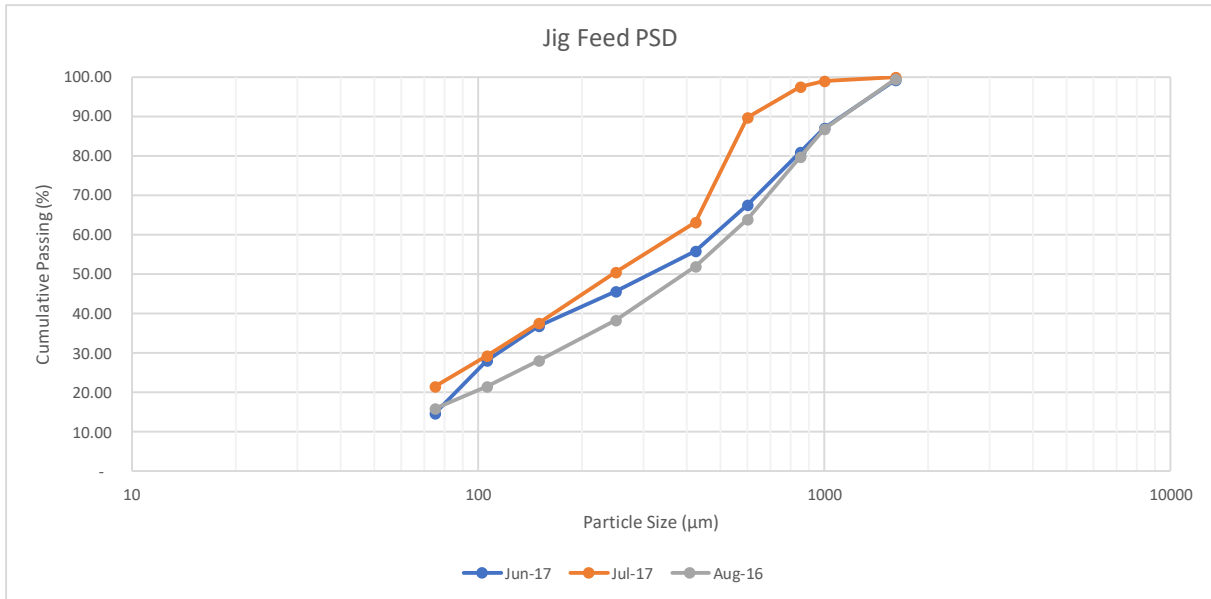
A 500-tonne trial parcel of low-grade ( $\approx 1.0$  g/t Au) ore was processed in late June/early July to assess the impact of the modifications made.

### **Results of Trial**

The purpose of the modifications was to lower the tail grade (and hence improve overall gold recovery) by a combination of reducing the PSD being fed to the gravity circuit and capturing gold from what was previously the final tailings stream.

### **Particle Size Distribution**

As noted above, the change-out of the screen deck panels occurred in two phases with the upper screen deck being changed out in June and the lower screen deck being changed out in July. As can be seen from Figure 2 below, the impact of both change-outs resulted in a reduction in the PSD to the gravity circuit when compared to the 2016 (August shown) PSD.



**Figure 1: PSD of Gravity Circuit Feed**

One noted downside of the reduced PSD for July was that the recirculating load to the Vertical Shaft Impactor (VSI) tertiary crushing unit increased, which necessitated the throughput rate of the processing plant being reduced to 12 tonnes per hour (tph) from its nominal design throughput rate of 15tph.

With the focus for the mining team changing from tonnes mined to grade mined (i.e. the target is to have lower tonnes but at a higher grade for the same ounces), this slight reduction in throughput rate is not considered to be material and is likely to be minimised as more experience is gained by the processing team in operating the process plant under the new set-up.

Mining Plus is also reviewing the applicability of using a combination of the 1.6mm and 1.2mm panels for the lower screen deck to bring the throughput rate back to the 15tph nominal target.

**Sluice Box**

The sluice box is a passive gold capture device which is operated with minimal operating costs. In the course of processing the trial parcel of ore, a number of small modifications were made to the sluice box to improve its performance. During the processing of the trial parcel of ore, the sluice box recovered approximately 10 grams of gold which would otherwise have been “lost” to the tailings. This represents an improvement in overall gold recovery of approximately 2%.

**Trial Results**

Ore Processed	Reconciled Head Grade	Reconciled Tail Grade	Gravity Circuit Recovery	Sluice Box Recovery	Total Recovery
504.4 tonnes	0.98 g/t Au	0.26 g/t Au	353.92 g Au	10.08 g Au	364 g Au
			71.5%	2.0%	73.5%

Orinoco's Chief Executive Officer, Mr Craig Dawson, said both of the low-cost plant modifications recommended by the Company's consultants had been successfully implemented, with positive results.

*"Both modifications have delivered the desired outcome and resulted in an overall reduction in the tail grade, and hence improved recovery, from the process plant. Further improvements are anticipated as the operating parameters of the plant are modified once processing operations recommence in earnest later this quarter."*

**-ENDS-**

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