



**Breakaway  
Research**

May 2016

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### Company Information

| ASX Code                               | OGX             |
|--|-----------------|
| Share Price (20 May 2016)              | A\$0.17         |
| Ord Shares                             | 266.6m          |
| Options – In the Money                 | 90.4m           |
| Options – Out of the Money             | 38.4m           |
| Performance Shares                     | 10.0m           |
| <b>Market Cap (w/in-money options)</b> | <b>A\$62.4m</b> |
| Cash (Est)                             | A\$6.0m         |
| Cash on Option Conversion              | A\$10.4m        |
| <b>Enterprise Value</b>                | <b>A\$46.0m</b> |

### Directors & Management

|                           |                   |
|---------------------------|-------------------|
| Non-Exec Chairman         | John Hannaford    |
| Managing Director         | Mark Papendieck   |
| President, Brazil ops     | Klaus Peterson    |
| VP Brazil & GM Operations | Marcelho Carvalho |
| CFO                       | Tim Spencer       |
| Non-Exec Director         | Brian Thomas      |
| Non-Exec Director         | Jonathon Challis  |
| Non-Exec Director         | Ian Finch         |
| Company Secretary         | Phillip Wingate   |

### Company Details

|         |  |
|---------|--|
| Address | Ground Floor, 16 Ord St.<br>West Perth, WA, 6005 |
| Phone   | +618 64633241                                    |
| Web     | www.orinocogold.com                              |

### Top Five Shareholders

|                    |        |
|--------------------|--------|
| Admark Investments | 14.52% |
| Ironclad Mining    | 5.08%  |
| Kas Inv & Dev P/L  | 3.87%  |
| Walid Khaole       | 3.51%  |
| Gregorach P/L      | 2.15%  |
| Top 20             | 46.59% |

### 1 Year Price Chart



# Orinoco Gold Limited (OGX)

## Commissioning Imminent

*Recommendation: Maintain Speculative BUY*

### Company Update

#### Key Points

- **Development of the key Cascavel Gold Project well advanced, with commissioning expected to commence in mid-late June 2016**
- **Expected first production in July 2016**
- **Development is confirming the geometry and expected grades of the mineralisation**
- **Excellent exploration and resource growth potential**
- **Our analysis indicates low C1 cash costs of ~A\$600/oz gold**
- **Updated risked base case valuation of \$0.27/share – a premium of 60% to the current price, with considerable upside in our view**

*Development of Orinoco's 70% held Cascavel Gold Project in Brazil is well advanced. However hold-ups in customs clearances have delayed the expected start-up by 4-5 months, with commissioning now expected in the second half of June. All plant has now been delivered to site, with final construction underway.*

*Despite the construction delays to the surface plant, the Company has continued to advance its underground development, and now has some three months of ore ready for stoping when plant commissioning is complete. The development work has confirmed the geometry, continuity and grade of the mineralisation, with the expected diluted production grade of ~20g/t Au supported by some very high grades in the development sampling.*

*Results of drilling at Sertão have supported the interpretation that the mineralisation is similar to that at Cascavel, hosted in parallel shoots within an overall gently dipping mineralised thrust – one shoot has now been intersected for 1,600m down plunge, and thus Sertão could be a potential future mining operation. Near mine exploration at Cascavel also continues to return very encouraging results.*

*Given the above we continue to rate Orinoco a SPECULATIVE BUY, with a revised base case price target of \$0.27/share. Short to medium term price movers will include demonstrated production at target levels, exploration success and gold price movements. We see considerable upside potential to our valuation.*

### Company Overview

Orinoco is an ASX-listed company concentrating efforts on orogenic gold mineralisation in the highly prospective Goiás region of central Brazil. The key development project is the Cascavel Gold Project, part of its broader Faina Goldfields Project, which covers some 300km<sup>2</sup> of greenstone units.

The Company's strategy is to initially develop a relatively small scale, start-up operation, with plans to then increase resources and mine life by funding drilling and other exploration activities from operational cash flow.



## Company Update

### Faina Goldfields Project - Background

Orinoco, for which Breakaway initiated coverage in March 2015, is concentrating activities on its Faina Goldfields Project, located approximately 350km west of Brasilia in the State of Goiás in central Brazil. The state produced 27.4% of Brazil's 2013 gold production of around 2.3Moz, and current significant operations include AngloGold Ashanti's Crixas and Yamana's Pilar mines.

#### Project Location Map



*Activities concentrated on the Faina Goldfields Project in Goiás State, Brazil*

Source: Orinoco Gold

The Faina project comprises three key targets in a ~300km<sup>2</sup> tenement package located over the highly prospective Faina Greenstone Belt:

- Cascavel Gold Mine – and its extensions (70% OGX)
- Sertão Gold (100% OGX)
- Tinteiro IOCG (70% OGX)

The regional tenements are variously held 70%, 75% and 80% by Orinoco's Brazilian subsidiaries, and contain a number of other very promising prospects.

The Company's initial focus is on developing a low cost (circa A\$600/ounce), underground operation at Cascavel, which is expected to produce at a high grade (diluted) of around 20g/t. Initial production is planned at an annualised rate of ~40,000tpa, with plans, dependent upon performance, for this to be ramped up to the nameplate capacity of the mill of ~100,000tpa. Processing is through a simple crush, 600µm grind and gravity recovery circuit. The lack of reagents and the use of dry tailings disposal have led to a relatively simple permitting process.

Cash flow from Cascavel will be used to fund exploration over its highly prospective tenements, and to further develop Cascavel and potential future mining developments at Sertão and other discoveries that may be made. The Cascavel site can then be used as a regional processing hub.

*Initial focus is on developing the low cost, high grade Cascavel underground operation*



The Cascavel development is largely being funded through a forward gold sale of US\$8 million through Cartesian Royalty Holdings (“Cartesian”, previously Chancery Asset Management) of Singapore.

### **Recent Events and Milestones**

*Activities have been concentrated on development at Cascavel*

Activities since our August 2015 update have been concentrated on development at Cascavel, with a 3,335.7m, 23 hole drilling programme also being completed at Sertão, and continuing near mine exploration, including dewatering at Cuca in preparation for bulk sampling.

*Delays have been caused by slow customs clearance*

Unfortunately commissioning has been delayed by around four months due to the Gekko gravity plant, which was imported from Australia, being held up in customs. This is now on site, and it is expected construction will be completed by late June in advance of commissioning.

On the corporate side the Company raised ~\$9.0 million in three placements and a 1 for 7 rights issue at \$0.17/share, which included one free attaching option for each three shares held, exercisable at \$0.25 on or before January 31, 2018.

### **Cascavel – Orinoco 70%**

#### **Development**

Final on-site construction of the Cascavel plant is now underway, with the long delayed arrival on site of the final containers of the Gekko gravity treatment plant, which was built, and underwent factory commissioning in Australia. The plant, due to a pre-existing operating licence, was originally to be at Sertão, some 28km from Cascavel, however as discussed in our August note approval was given by the relevant authorities to move this to the mine site, which provides significant logistical benefits and cost savings.

*Commissioning is planned to commence in the second half of June*

Commissioning is planned to commence in the second half of June, and with the first gold pour expected in July. The commissioning will use stockpiled mineralised waste from the development, which is relatively low grade when compared to the planned stope ore. Some 7,000t of mineralised material has now been stockpiled, including the low grade component to be used during commissioning and some high grade material for future blending.

As discussed in our August update, the Company has increased the size of the development, with the main incline shaft being enlarged from 2.5m x 2.5m to 3.5m wide by 3m high, to allow for increased haulage capacity to meet the nameplate ~100,000tpa throughput of the plant. Although this development occurs in mineralisation, there is a significant increase in dilution compared to stope ore with the average planned height of the stopes being around 1.3-1.4m and the average thickness of the mineralisation up to ~1m.

*Three months of ore is ready for stoping*

Underground development is well underway, with some 600m of the incline shaft, level drives and slot raises now being completed, and with three months of ore now ready for stoping. Development is largely completed on Levels 0 and 1 where initial “T bone” mining is planned, extracting 90% of the mineralisation. “T-boning” includes developing 3m wide x 1.6m high slot raises at 9m centres (6m clear between sides), and extracting the intervening 6m wide areas at a height of ~1.2m (or more if the mineralisation is thicker than 1.2m).

Activities are now moving to Level 2, where it is planned to commence the use of long hole open stoping as the main mining method. Development has also included the addition of an internal decline (“Ramp 2” in the following plan), which will expedite delivery of ore from the stoping areas to the main incline shaft.



Some impressive grades have been returned from the panel sampling, including:

*Panel sampling of development has resulted in impressive grades*

- 14.78m @ 75.36g/t Au in Level 1 South development
- 10.3m @ 100g/t Au and 11.6m @ 50.3g/t Au on opposite walls of the Level 0 Central level drive.
- 3.66m @ 142.62g/t Au in Level 1 central.

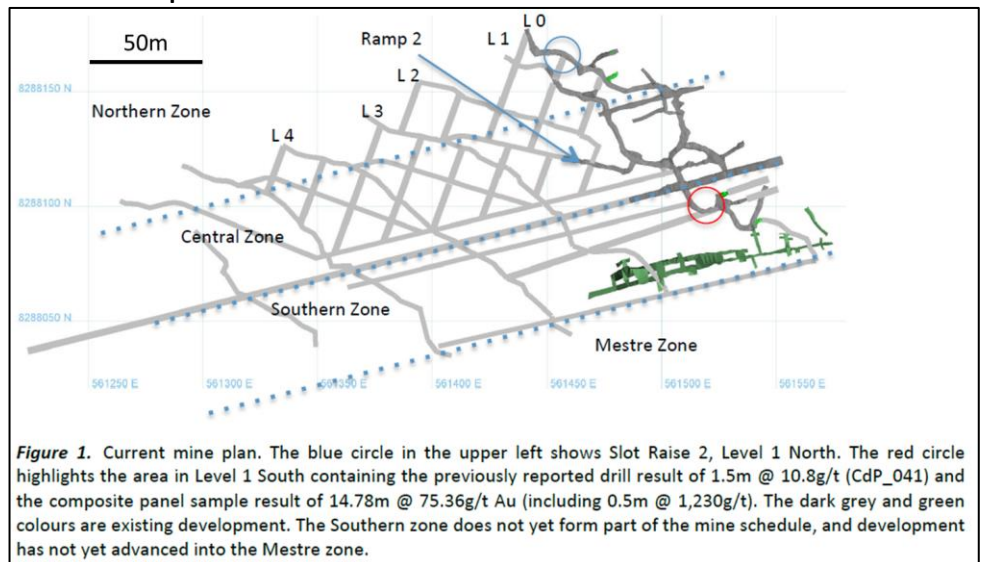
*The Northern Zone has been added to the mining inventory*

The Company notes that gold has been panned from most advance faces. The work has also resulted in the addition of the Northern Zone to the mining inventory, with the initial level drive intersecting high grade mineralisation. This area was previously not accessible; however drilling had intersected the mineralised structure with the recent work confirming the mineralisation.

*Work to date has confirmed previous interpretations of the mineralisation*

The Company has stated that the development has confirmed previous interpretations of the orientation, structure, continuity and grade of the mineralisation, with this occurring as a number of SW 20° plunging shoots, between 10 and 20m wide separated by lower grade zones of similar width, in an overall mineralised structure that dips at around 30° to the WSW.

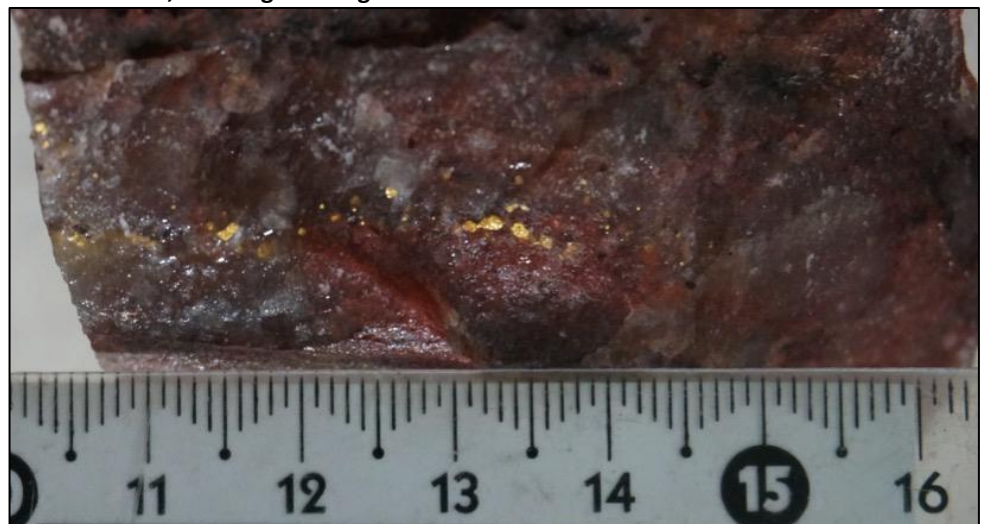
### Cascavel mine plan



Source: Orinoco

### Notes – Panel Sampling

#### Mineralisation, showing coarse gold



Source: Orinoco



Given the extremely nuggetty nature of the mineralisation Orinoco has used panel sampling to define grades for the mineralisation. This involves collecting contiguous 0.5m high “panel” samples of the mineralisation along both walls of the development, with each panel being collected following advance of the development.

*Panel sampling gives a reasonable guide to expected grades, but not a definitive grade*

These provide a significantly larger sample than conventional channel samples, however are still, at around 10kg, considered insufficient in size to account for the clustering of the coarse gold – several tonnes would need to be collected to give a representative grade. Also, the grade from the panels needs to be diluted by a factor of around two to three to provide a diluted mining grade.

As such the diluted panel grades give a guide to the expected stope grades – they do not provide a high confidence grade estimate.

### Sertão – Orinoco 100%

The Company completed a 23 hole, 3,335.7m drilling programme testing for mineralisation down plunge from the high grade, historically mined Sertão open pit (256koz @ 25g/t Au).

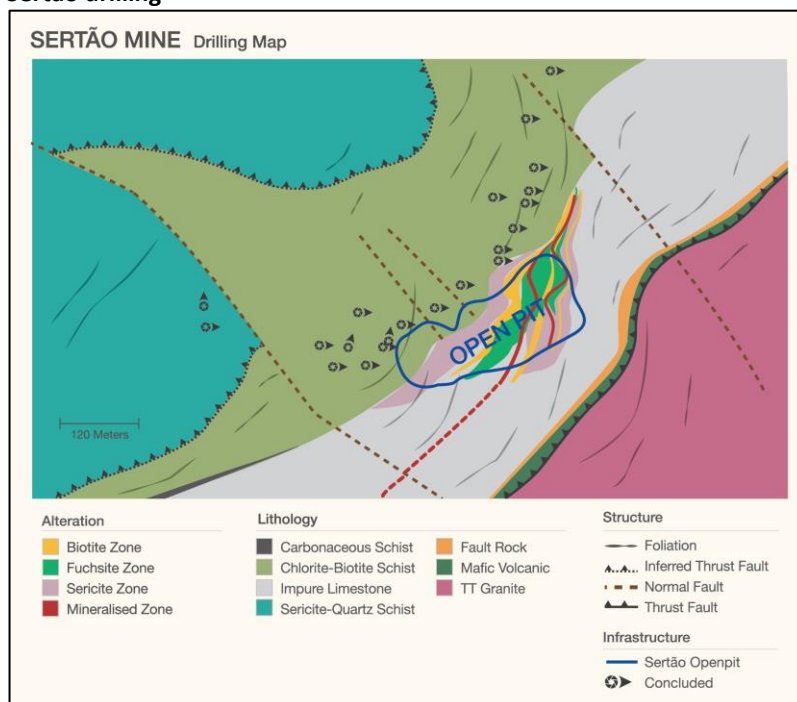
Best results from the drilling, which tested approximately 900m of strike and 200m of down dip extent included the following intersections:

*Drilling at Sertão has produced very encouraging results*

- **0.5m @ 7.33g/t** (STO\_004: from 141.5-142.0m)
- **1.82m @ 13.55g/t** (STO\_005: from 130m)
- **0.65m @ 13.05 g/t** (STO\_005: from 126.2m)
- **0.46m @ 21.40g/t** (STO\_005: from 131m)
- **0.5m @ 46.8g/t** (STO\_022: from 150.2m)

This has followed up on results of historic drilling, including 0.7m @ 48.2g/t Au in GVD\_029, and 2m @ 18.7g/t Au in SRT\_001. This latter hole was collared outside of the Sertão boundary, however deviated, intersecting the mineralisation 50m inside the Sertão tenement and at a depth of 541m some 1,600m down plunge to the east from the open pit.

### Sertão drilling



Source: Orinoco





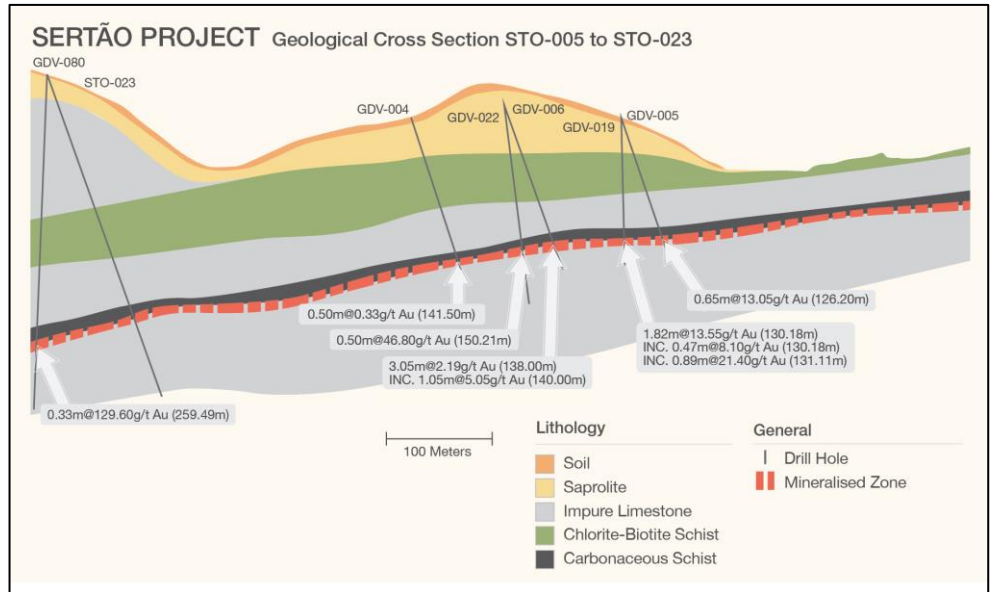
*Mineralisation is similar to that at Cascavel*

Mineralisation is hosted within a broadly stratigraphically parallel shear zone, interpreted as a west to north west dipping thrust fault. The geometry and timing of the faulting is identical that at Cascavel, with the higher grade mineralisation, again like Cascavel, occurring as shallowly plunging shoots within the broader mineralised zone. However metallurgical properties are different to Cascavel, with Troy Resources' (ASX: TRY) processing route including both a Knelson gravity concentrator and a CIL plant when they operated the mine from 2003 to 2007.

This zone can be recognised by the development of alteration and veining, with it including quartz veins/veinlets, sericite, pyrite, chalcopyrite, pyrrhotite and arsenopyrite.

### Sertão east-west section, showing historical drilling and assays

*Mineralisation occurs as east plunging shoots*



Source: Orinoco

### Regional Exploration

The Company continues to carry out exploration over the ~300km<sup>2</sup> of properties that cover the central portion of the Faina Greenstone Belt between Cascavel and Sertao, as well as other portions of the shear zones that host the mineralisation.

As reported in our August update this is being carried out by a separate exploration group, that has allowed the mine development personnel to concentrate on development.

Previous exploration work, including rock chip sampling has returned very promising results over the area, with samples returning up to 43.7g/t gold. Historic largely RAB drilling also gives encouragement.

*Work has identified near mine targets which will be the focus of exploration activities*

Work to date has identified a number of very promising near mine targets hosted in parallel zones. In addition to potential strike and down-dip extensions to Cascavel (which the Company plans to drill test) these include the Cuca lode, which occurs some 15-20m below the Cascavel lode, and which returned a grade of 27.2g/t from a 2.5t bulk sample as released to the market on May 14, 2014.

Orinoco is currently dewatering the artisanal workings (originally worked by the Portuguese in 1741, and re-opened by artisanal miners in 2009) in preparation for collecting bulk samples, in the order of hundreds of tonnes. Metallurgical testwork has shown that the Cuca mineralisation has the same characteristics as Cascavel.

The second priority target is Española, centred some 1.5km north of the Cascavel plant. This includes a zone of quartz veining and alteration mapped over a strike length of some

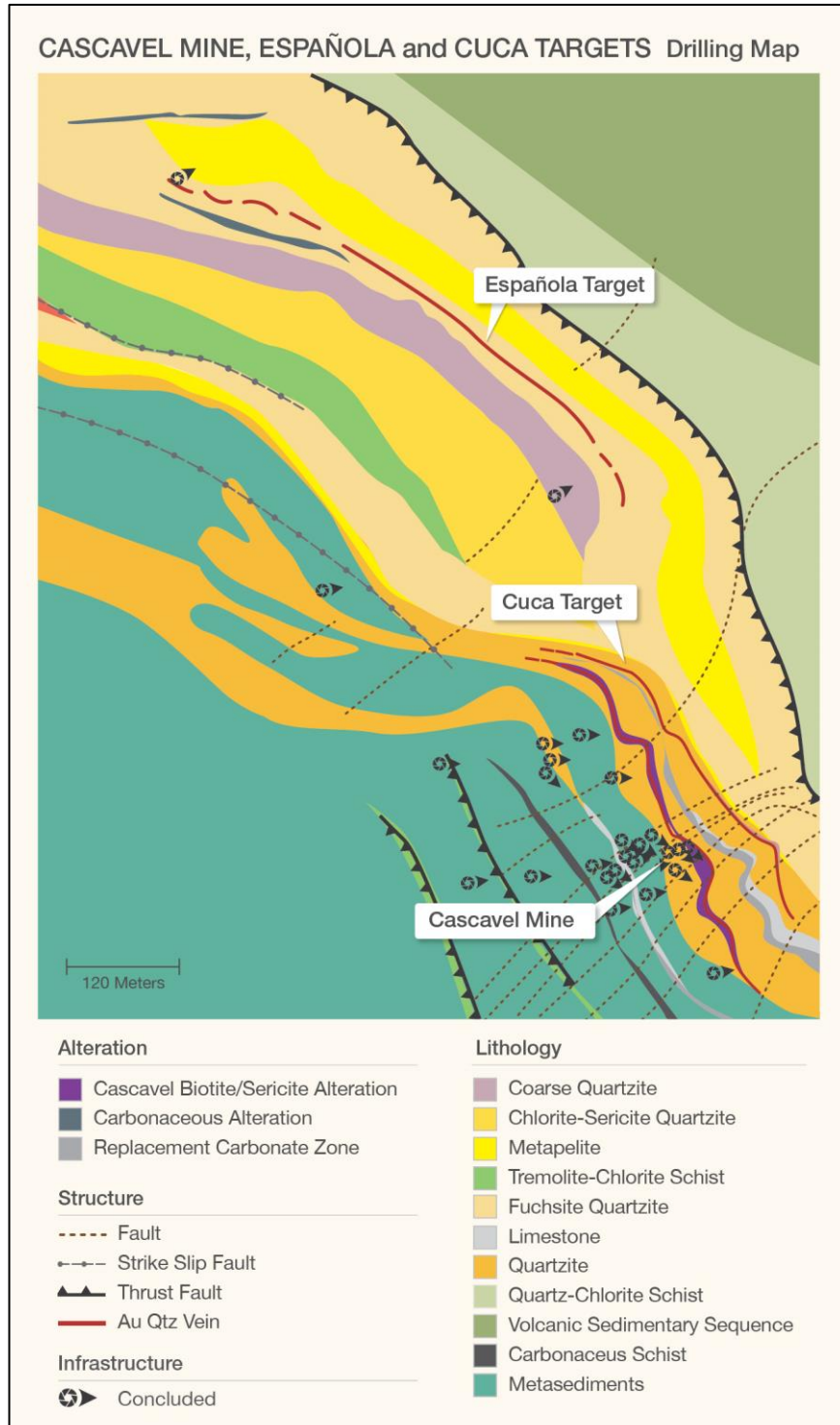


2km to date. The area includes historic workings, including a series of winzes developed along around 200m of strike, with a number of smaller workings along the rest of the 2km strike. As for Cascavel, mineralisation, at least where the winzes were developed, includes a shallowly dipping zone of quartz veining with an alteration halo. Rock chips, as reported to the market on October 7, 2014 returned up to 9.9g/t Au.

Shallow drilling is planned to test the Española target.

In addition the Company's tenement package contains a number of other promising targets; however the short term strategy is to find additional ounces in the near mine targets.

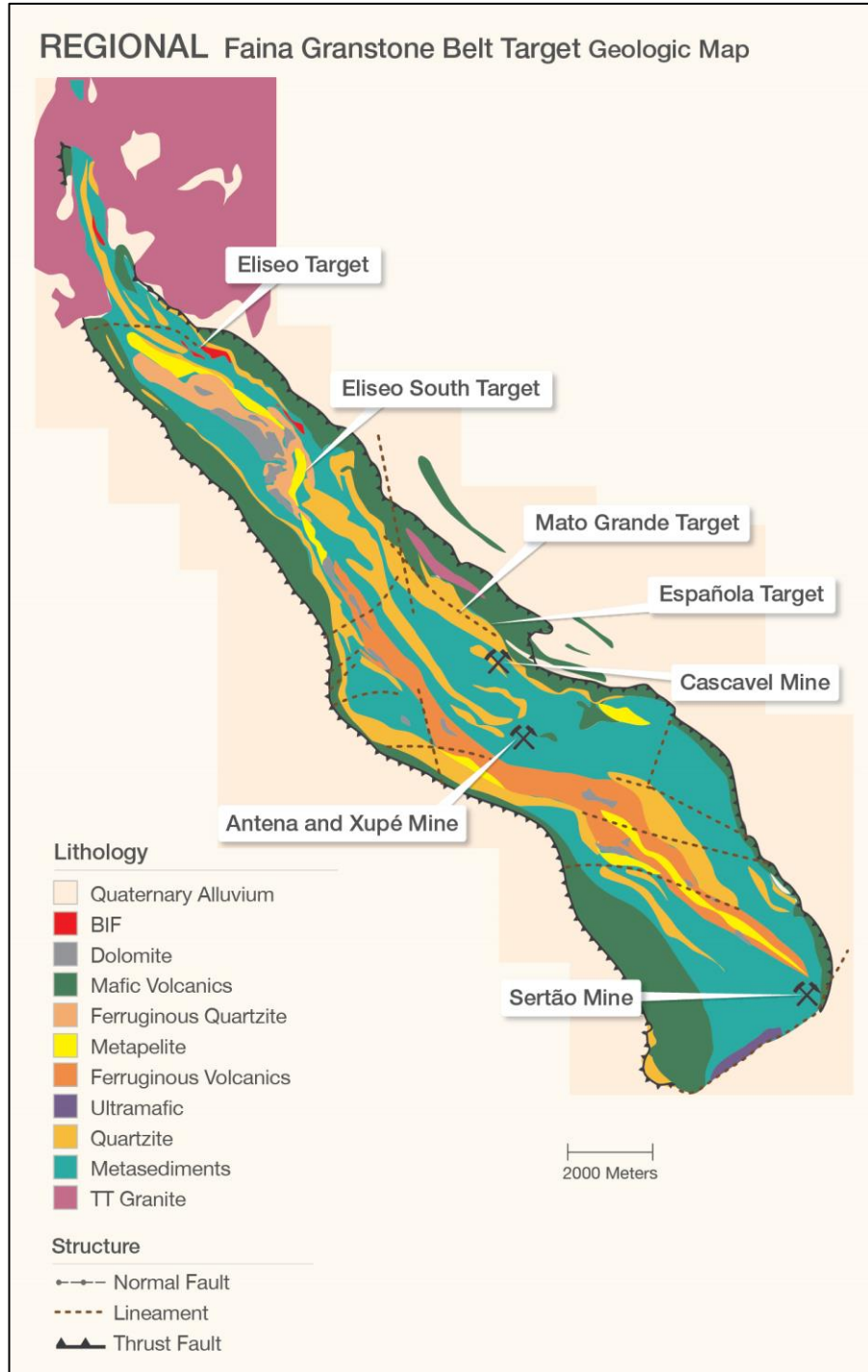
### Cascavel and Near Mine Targets



Source: Orinoco



## Regional Targets



Source: Orinoco

## Corporate

### Equity Raising

The Company has raised \$5.28 million through a 1 for 7 rights issue in addition to three placements (one pre and two post rights issue) totalling ~\$3.6 million. Although originally not fully subscribed, the demand for shortfall from the rights issue was such that the third placement, for an additional ~\$1.6 million under the same terms as the rights issue was made possible. All issues have included one free attaching option for every three shares, exercisable at \$0.25 and expiring on January 31, 2018.

*Recently completed placements and a rights issue have raised over \$7 million*





Over \$10 million in potential option conversions, including \$8.6 million in options expiring in November

The Company also has significant in the money options, with the potential to bring in over \$10 million on conversion. These include:

- 77,937,460 listed options at 11c, expiring on 30 November 2016
- 500,000 unlisted options at 11c expiring on 30 April 2017
- 250,000 unlisted options at 11c expiring on 30 June 2017
- 1,250,000 unlisted options at 16c expiring on 31 October 2017
- 12,500,000 unlisted options at 15c expiring on 30 April 2018

The shortest expiry is for the listed options, and assuming full conversion these will bring in ~\$8.6 million over the next six months.

#### **Cartesian Facility Drawdown**

Following the formal execution of the Cartesian funding agreement in May 2016, the third and final tranche of the US\$8 million facility was drawn down in the December 2015 quarter, with a total of A\$10.4 million being used.

#### **Planned and Current Activities**

News flow over coming months will relate to completion of development, commissioning and initial production.

On the exploration front, activities will be concentrated on the near mine targets, with drilling and bulk sampling planned. Given the Company's focus on gold, it is considering the potential of bringing a partner in to progress activities on the Tinteiro IOCG target whilst it continues activities on the gold prospective tenements.

#### **Valuation**

We have updated our valuation for Orinoco, with our price target increasing from \$0.17 to \$0.27/share, even taking into account dilution from the rights issue and placements.

We have an updated \$0.27/share valuation for Orinoco

#### **Revised Orinoco valuation**

| Item                               | AUD – Un-risked | Risk Weighting | AUD - Risked   | Notes                                 |
|------------------------------------|-----------------|----------------|----------------|---------------------------------------|
| Cascavel - 2016-2019 - 70%         | \$46.3m         | 70%            | \$32,4m        | 5% DCF, funded, after tax             |
| Cascavel 2020-2023 - 70%           | \$55.8m         | 40%            | \$22.3m        | 5% DCF, funded, after tax, conceptual |
| Exploration properties - 70%/80%   | \$6.0m          | 100%           | \$6.0m         |                                       |
| Sertao - 100%                      | \$5.0m          | 100%           | \$5.0m         |                                       |
| Head Office NPV - 2016-2019 - 100% | -\$4.1m         | 100%           | -\$4.1m        | 5% DCF, \$1.2m pa                     |
| Cash                               | \$6.0m          | 100%           | \$6.0m         | Estimated                             |
| <b>Company NPV</b>                 | <b>\$118.0m</b> | <b>60%</b>     | <b>\$70.8m</b> |                                       |
| <b>Per Share Valuation</b>         | <b>\$0.443</b>  |                | <b>\$0.265</b> | <b>Shares on Issue – 266,647.810</b>  |

Source: Breakaway analysis

We have updated the gold price to US\$1250/ounce from US\$1160/ounce, and have also increased the risk weighting for Cascavel given progress made on the project.

We have, as like in our previous note, not factored in the fluctuations of the Brazilian Real against both the Australian and US dollars – this has appreciated ~10% since our previous update, offsetting the depreciation we saw prior to that.



## *Breakaway's View*

Despite the disappointing delays in customs clearance, the Company has made good progress on the key Cascavel mine and we look forward to seeing commissioning and then production in the coming few months.

Our analysis indicates that the total development cost to date is some \$13.4 million, which is around \$2 million more than the estimated \$11.5 million (US\$8.6 million at a AUD/USD exchange rate of 0.75), however part of this will be due to some underground level and stope development during the March 2016 quarter that would otherwise be considered part of the operating cost, and not included in the original capex estimates.

On face value the assay results of those panel samples released to the market support the forecast grades – the Company has only released limited results given the view that, although indicative of grade, they do not provide an accurate grade for the highly nuggetty mineralisation (both low and high grade zones) and may be misleading. True grades will only be determined once mining is underway. Resource risk is still the key technical risk, however, given the results noted above, the early indications are encouraging.

The work also supports the interpreted geometry of the mineralised shoots, and has opened up the northern area, providing additional tonnes to the proposed mine plan.

Drill results from Sertão are also very encouraging, and create potential for this to become a second operation. The drill results are comparable to those from previous work at Cascavel, and may under call the actual mineralisation grades as has happened previously. For example, drilling in an area of panel sampling at Cascavel that returned 14.78m @ 75.36g/t Au returned an intersection of 1.5m @ 10.8g/t Au.

Near mine exploration results have also been very encouraging, showing scope to significantly increase resources.

The Company is now well funded, given the recent capital raisings and the potential cash due on option conversion – in our view the Company should have one to two quarters of working capital on hand should production not go to plan.

The only permitting remaining for Cascavel will be the sign off on the processing plant once it is completed – this is done by the environmental office and is a confirmation that the plant has been constructed as per the licence.

The Company's share price has stayed relatively stable at around \$0.17/share over the past five months and hasn't moved with the gold price and other gold stocks. However we view this as reasonable given that the Company is in the development phase, a period that commonly sees share prices trending sideways.

Given the above we continue to rate Orinoco as a SPECULATIVE BUY, with a revised price target of \$0.27/share, with considerable upside. Price movers will include the completion of development and commissioning, and then demonstrated production at Cascavel. We also see the potential for exploration success to move the price.

*We maintain our  
Speculative Buy rating  
with an revised price  
target of \$0.27/share*



### **Analyst Verification**

We, Grant Craighead and Mark Gordon, as the Research Analysts, hereby certify that the views expressed in this research accurately reflect our personal views about the subject securities or issuers and no part of analyst compensation is directly or indirectly related to the inclusion of specific recommendations or views in this research.

### **Disclosure**

Breakaway Investment Group (AFSL 290093) may receive corporate advisory fees, consultancy fees and commissions on sale and purchase of the shares of Orinoco Gold and may hold direct and indirect shares in the company. It has also received a commission on the preparation of this research note.

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