



**Dr Michael Green**

**Growth company & Resources analyst**

DOC Investments Limited

Kemp House,

152 City Road,

London EC1V 2NX

doc@docinvest.co.uk



**Business**

**Gold mining and exploration  
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**Financials**

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**Website**

**[www.igmining.com](http://www.igmining.com)**

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## Brandy Creek

**Important new area in addition to Brilliant Brumby which looks set to increase the scale of this large project**

**High-grade gold project at a great address.** InterGroup Mining's (IGM) project lies in the Charters Towers Gold Province in Queensland, Australia which has seen more than 20Moz of high-grade gold being mined. The project area contains a number of historical mines with exceptional gold grades such as: Brilliant Brumby, Surprise and Brandy Creek. Impressive exploration results at Brilliant Brumby and Surprise has led IGM being granted a mining licence (ML 100008) which is centred around these historic high-grade mines and already the company has commenced mining.

**Really compelling results from initial drilling.** It is only quite recently that IGM constructed an access road into the Brandy Creek area. As part of the 2018 drilling programme 21 RC holes were drilled for 2203.5m in this area to investigate the extent of the mapped historic workings and mineralised quartz veins. In the 1930's, the old Brandy Creek mine produced gold averaging 51g/t and drilling here by IGM for the first-time has seen grades approaching this level. Drilling results did confirm gold in quartz-vein mesothermal mineralisation, which is well-known for its high-grade deep structures which hold substantial quantities of gold.

**To be developed in the same way as Brilliant Brumby.** Brandy Creek lies just 5km away from the 2km long Brilliant Brumby line and initial drilling results have revealed some big similarities. An expanded drilling programme is planned. A mining licence is being fast tracked with Brandy Creek looking set to be developed in much the same way as Brilliant Brumby with the focus on early stage mining and cash flow generation to limit dilution.

**Already 20,000oz of gold resources delineated.** Initial drilling intersected gold grades as high as 47g/t. Preliminary modelling of these zones of mineralisation has so far shown that Brandy Creek has approaching 1Mt with a highly variable grade averaging 0.7g/t for approximately 20,000 oz, which is not a bad start following the first drilling here. As with Brilliant Brumby the separate zones of mineralisation may well join up and further drilling and surface sampling programmes at Brandy Creek are planned to define a maiden and expanding JORC resource.

**Large gold project that keeps on growing in size.** Successful initial drilling at Brandy Creek suggest it will be an important new area in addition to Brilliant Brumby and thereby increase the scale of this already large gold project. The team is seeking to determine an expanding JORC resource which will allow mining analysts to place an increasing valuation on this rapidly growing project. Truth is that this is fast shaping up to be a potentially world class gold project. Moving ahead, IGM looks likely to attract the attention of the majors which over the years have become increasingly reliant on juniors for their future projects.

## INTRODUCTION

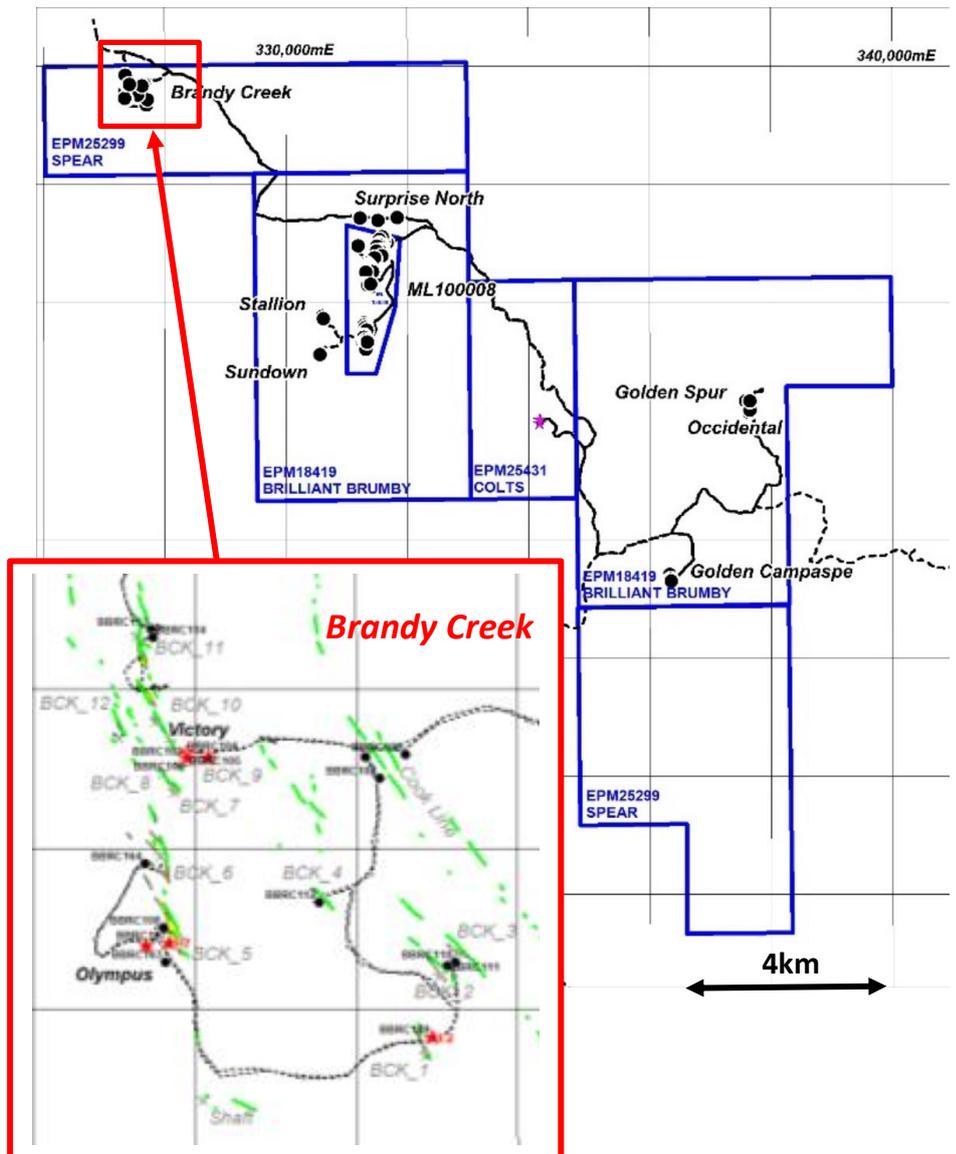
IGM has a 100%-interest in major gold exploration project in Northern Queensland which seems to be growing rapidly in both scale and potential following the 2018 exploration and drilling programmes.

This exciting gold project lies approximately 250km from the seaport of Townsville. There is little doubt that the project is ideally located lying within an under-explored area of the famous Charters Towers Gold Province, which hosts a number of legendary large high-grade gold mines.

The Charters Towers Gold Province has produced in excess of 20 million ounces of gold from: mines in the Charters Towers area (7.1Moz), Pajingo-Vera Nancy (3.8Moz) and Ravenswood (operated by Resolute Mining which has produced 4Moz so far and is still in production). That's not to mention Mount Wright (also operated by Resolute Mining and closed in 2018 after mining more than 1Moz of high-grade ore during its lifetime), Mount Leyshon (3.5Moz), Mt Carlton (1.4Moz) and Wirrelie (1Moz).

*Legendary large high-grade gold mines*

*Brandy Creek*



**Location of some prospects drilled in the 2018 RC drilling programme, with lodes (green) and old mine names (black) on insert map of Brandy Creek**

*>100km<sup>2</sup> of highly prospective ground*

IGM's project contains the primary Brilliant Brumby mining lease (ML 100008 - 179.6 hectares), along with four Exploration Permits for Minerals (EPM) that cover more than 100km<sup>2</sup> of highly prospective ground. The project area contains a number of historical mines with exceptional gold grades which include: Brilliant Brumby, Surprise and Brandy Creek.

## *Mt Stewart gold rush*

*Average gold grade of 51g/t*

## *Mesothermal gold mineralisation*

### **BACKGROUND**

IGM has a highly compelling strategy to establish viable gold operations based on the gold veins that characterise the Mt Stewart region. Gold was not discovered in this area until the 1930s, which led to the Mt Stewart gold rush. Gold discoveries came late here due to the rugged topography and the widespread presence of barren quartz float derived from pegmatite dykes which would have discouraged early prospectors.

The best place to find new mines is often next to old ones and impressive early exploration results at Brilliant Brumby and Surprise have led IGM to successfully apply and be granted mining licence ML 100008, which is centred around these two historic high-grade mines.

The Brandy Creek historic mine lies within the Spear EPM 25299 and is the site of the first recorded gold found on the Lolworth Range. Historic high-grade gold production was recorded here intermittently from 1932 to 1936. Government reports from this time show that 83.5t of ore was treated for 137.4 ounces, suggesting exceptional gold grades possibly averaging as high as 51g/t. Such a grade is more than 50% higher than that mined in Charters Towers, which is seen as being one of Australia's richest gold mines producing over 7Moz at 34g/t during its life.



***Old workings at Brandy Creek***

The Brandy Creek workings mined mesothermal gold mineralisation hosted within typically steeply dipping 10-30cm wide quartz veins. The alteration is associated with mineralisation veins and is relatively consistent with moderate to strong green sericite-chlorite alteration. The zone of alteration can extend within the host granite for up to several metres from the veins but is generally around 1m wide.

### **GEOLOGY**

The project lies within an early Palaeozoic Igneous Belt, with widespread mineral shows of gold alongside lesser shows of base metals mineralisation. These rocks are underlain mainly by granitoids of the Lolworth Igneous Complex (Upper Silurian-Lower Devonian in age) which is probably a postorogenic batholith (large igneous intrusion formed after the period of mountain forming) which consists of mainly massive biotite adamellite and grandiorite.

The geology of the project area is dominated by granites. Lolworth granite has the potential for small-medium sized mesothermal vein deposits, formed by hydrothermal fluids rising up from deep below the surface are a major source of world gold production.

*Relatively shallow  
gold mineralisation*

*Intersected gold  
grades close to  
historical levels*

## EXPLORATION TARGETS

The majority of the target areas that have been discovered so far seem to lie along linear geological structures, which are favourable locations for gold mineralisation. These overlapping structures are of differing ages which has allowed mineralising fluids to fracture the rocks along already weak zones and alter the fabric of the rocks creating sites for breccia hosted gold deposits. In addition to the injection of quartz veins which contain gold and associated elements that were sourced from far below the earth's crust.

At Brandy Creek, the gold is found in mesothermal quartz veins in Devonian granites (circa 380Ma). These veins occur in narrow irregular en-echelon "lodes" of granite hydrothermally altered to sericite (fine-grained mica which is a common alteration mineral seen in areas due to hydrothermal alteration typically associated with copper, tin or other hydrothermal ore deposits).

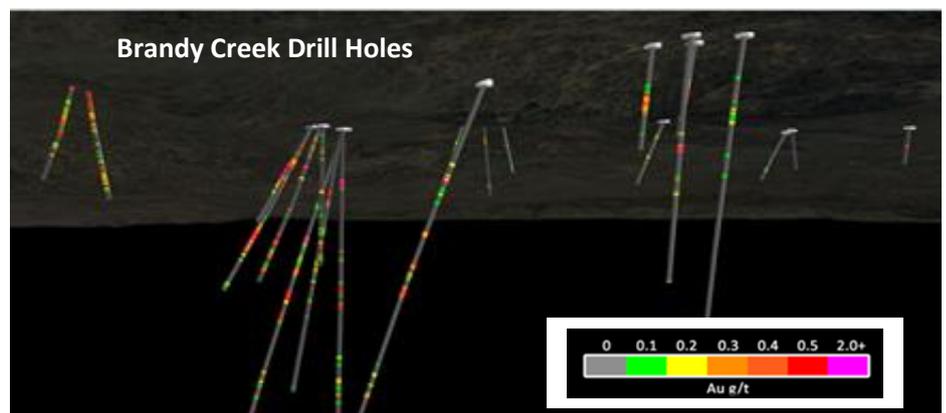
A lode refers to a deposit of metalliferous ore that fills a crack or fissure in a rock formation or a vein of ore that is deposited between layers of rock. Whilst, en-echelon means that these lodes are closely-spaced, parallel/subparallel, overlapping or step-like gash fractures. Gold at Brandy Creek has been found to be associated with subordinate silver values and occasional trace pyrite, galena (Pb) and sphalerite (Zn). The mineralisation is weathered to a relatively shallow depth of just around 20m, as much of the weathered profile has been eroded over millions of years.

## DRILLING RESULTS

The 2018 drilling programme was designed to confirm earlier results which showed significant gold deposits across a wide range of targets such as: Brilliant Brumby, Oakey Creek, Brandy Creek, High Ridge and The Worm. Plus, gain a better understanding of the gold potential at depth. Between August 2018 and January 2019, 148 Reverse Circulation (RC) holes were drilled for 11,130m, with the main focus being the Brilliant Brumby line.

Original rock chip samples by IGM delineated high gold values on the NW workings at Brandy Creek with 10 samples over a 130m strike length which included gold assays running at 11.5g/t and 12.75g/t; and averaging around 7g/t. Other results included 15.25g/t and 4.3g/t in the south eastern group.

The company has only recently constructed an access road into Brandy Creek which allowed for the initial drilling in this area. A total of 21 RC holes were drilled for 2,203.5m, targeted at investigating the extent of the mapped historical workings and mineralised quartz veins. It is good news that initial drilling has intersected gold grades close to historical levels with high grade gold intersected below the 1930s workings at Victory and +5g/t gold was returned at Olympus. Best intersections were from Victory: 1m @ 11.4g/t Au (BBRC 103), 2m @ 11.1g/t Au (BBRC 104), 4m @ 19.99g/t (BBRC 167) and 3m @ 26.2 g/t Au (BBRC 167).



*Good gold grades  
extend to depth*

*1m @ 47g/t g*

*Key takeways*

RC Hole	Brandy Creek Prospect Intercepts from 2018 RC drilling programme > 0.5g/t gold
BBRC100	1m @ <b>0.9g/t</b> Au from 22m
BBRC103	1m @ <b>11.4g/t</b> Au, 20.4g/t Ag from 8m 2m @ <b>2.09g/t</b> Au from 20m 2m @ <b>1.55g/t</b> Au from 88m
BBRC104	1m @ <b>1.55g/t</b> Au from 15m 1m @ <b>1.02g/t</b> Au from 25m 1m @ 1.02g/t Au from 39m 14m @ <b>2.98g/t</b> Au from 76m (including 2m @ <b>11.3g/t</b> Au from 86m)
BBRC105	12m @ <b>2.60g/t</b> Au from 29m (including 3m @ <b>5.4g/t</b> Au from 37m)
BBRC106	1m @ <b>6.17g/t</b> Au from 9m 2m @ <b>2.38g/t</b> Au from 31m 2m @ <b>1.29g/t</b> Au from 86m
BBRC107	12m @ <b>1.08g/t</b> Au from 22m (including 3m @ <b>2.7g/t</b> Au from 23m)
BBRC108	1m @ <b>1.05g/t</b> from 25m
BBRC109	2m @ <b>2.83g/t</b> from 18m
BBRC112	1m @ <b>1.51g/t</b> from 27m
BBRC113	1m @ <b>1.42g/t</b> from 1m
BBRC114	3m @ <b>1.02g/t</b> from 10m 5m @ <b>0.75g/t</b> Au from 17m (including 1m @ <b>1.07g/t</b> Au from 21m) 1m @ <b>2.26g/t</b> Au from 57m
BBRC164	2m @ <b>1.73g/t</b> Au from 55m 1m @ <b>1.03g/t</b> Au from 129m 2m @ <b>0.99g/t</b> Au from 129m
BBRC165	3m @ 3.04g/t Au from 40m (including 1m @ <b>4.95g/t</b> Au, 0.25% Pb from 40m) 3m @ <b>3.27g/t</b> Au from 44m (including 1m @ <b>8.12g/t</b> Au from 45m) 1m @ <b>1.11g/t</b> Au from 46m
BBRC166	1m @ <b>3.66g/t</b> Au from 56m (including 1m @ <b>6.15g/t</b> from 57m)
BBRC167	4m @ <b>19.99g/t</b> Au, 0.23% Pb from 80m (including 1m @ <b>47.00g/t</b> Au, 31.1g/t Ag, 0.71% Pb, 0.3% Zn from 81m and 1m @ <b>24.5g/t</b> Au, 9.3g/t Ag, 0.13% Pb from 82m) 1m @ <b>2.54g/t</b> Au from 94m 7m @ <b>1.55g/t</b> Au from 116m 1m @ <b>4.81g/t</b> Au from 119m 1m @ <b>1.83g/t</b> Au from 131m 1m @ <b>1.15g/t</b> Au from 181m
BBRC168	3m @ 2.35g/t Au from 56m (including 1m @ <b>7.63g/t</b> Au, 0.18% Pb, 0.2% Zn from 58m).

There are three key takeways from the initial drilling results at Brandy Creek which are discussed below.

**High grade gold** - Impressive gold grades at Brandy Creek as high as 47g/t, which is close to the average grade historically mined here of 51g/t. Such grades are way above the 1g/t which is the average mined around the world.

**Mesothermal** - Drilling at Brandy Creek successfully intersected massive quartz veining and minor sulphides (including pyrite and galena). These intersections clearly show that gold mineralisation lodes extend from the surface to depth at Brandy Creek. This is very good news as such results are consistent with the structures being mesothermal in origin.

**Similarities with Brilliant Brumby Line** – These results show big similarities with the Brilliant Brumby line. Certainly, the mineralisation at the Brilliant Brumby historic mine is seen to be similar to that at Brandy Creek and is typically hosted by quartz veining trending N-S in contrast to the general NE-SW trend of the major faults and lineaments in the region.

*Important new additional area*

*Expanded drilling programme*

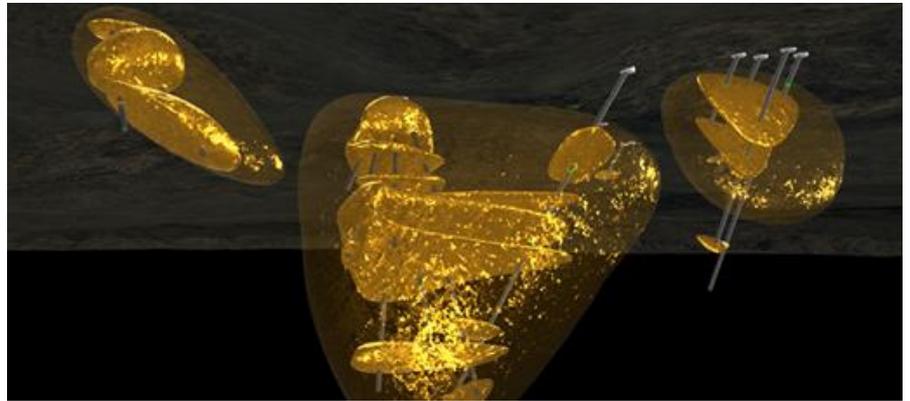
*Maiden and expanding JORC resource*

## STRATEGY

To date, the biggest discoveries over the larger project area have been made along a prominent 2km trend called the Brilliant Brumby line. Brandy Creek is located just 5km away and is seen to contain similar mineralisation. Highly encouraging early drilling results at Brandy Creek are fast suggesting that it is an important additional new area.

Drilling is the easiest way to add value. The best exploration results at Brandy Creek came from the NW and so an expanded drilling programme is expected to focus on the adjacent area to the north where the 1930s miners developed a small underground stope and down-plunge from high-grade mineralisation. The scene does appear set for the possible discovery of a similar sort of trend at Brandy Creek, as the Brilliant Brumby line.

Preliminary modelling of the zones of mineralisation has so far shown that at Brandy Creek there is approaching 1Mt of gold ore with a highly variable grade averaging 0.7g/t for c.20,000 ounces. The highest grades were found in the central zone of the NW area where the average has been discovered to run slightly higher at 0.81g/t gold which includes intersections such as 2m @ 36g/t, 1m @ 15g/t and 1m @ 11g/t.



**Brandy Creek mineralisation**

As with Brilliant Brumby the separate zones of mineralisation may well join and further drilling/surface sampling programmes at Brandy Creek are planned to define a maiden and expanding JORC resource. The management team intend to develop Brandy Creek in the same way as Brilliant Brumby ML 100008 with the focus on early stage mining and cash flow generation. Already a mining licence is being fast tracked for Brandy Creek with plans to process the gold ore at Brilliant Brumby.



**Brilliant Brumby Processing Plant**

Gold ore mined at Brandy Creek is proposed to be trucked to the processing facilities at ML 100008 for treatment, where there are currently plans in place to rapidly increase the nameplate capacity of the processing plant at Brilliant Brumby. The team is also investigating the use of laser separation as trials have shown that this technology is able to discard 90% of granitic waste and reduce costs.

*Gold targets could connect underground*

*Potential world class gold project in the making*

## **RAPIDLY CLIMBING THE VALUATION CURVE**

The more IGM explore at this project in Northern Queensland, the more the team finds. Exploration activity has been highly successful with impressive results gained from the 2018 drilling and exploration programmes across the Brumby Project including Brandy Creek, which have served to increase the scale still further of this already potentially large high-grade gold project.

Work on the ground has led to the discovery of high-grade gold from quartz-vein mesothermal Charters Towers style gold mineralisation. These structures are legendary for being large and deep structures that can hold a substantial amount of gold ore. So, it may be that rather than being isolated targets, all these gold targets could connect up underground, but this has not yet been proven.

Gaining a mining licence for Brandy Creek would allow for early stage gold production and an expanding cash flow which should reduce dilution for shareholders. Whilst, further drilling at Brandy Creek is expected to be focused on defining a maiden and expanding JORC resource in addition to the resource being established at Brilliant Brumby ML 100008. A growing resource for the entire project would allow an increasing valuation to be placed on IGM by mining analysts.

Brandy Creek does demonstrate that the IGM is increasingly making further high-grade gold discoveries across a fast-expanding area. As seen elsewhere in the larger project area, high-grade gold near-surface mineralisation does open the door to low-cost open pit mining. Whilst, mineral processing appears fairly straightforward using gravity separation. All of this seems to point towards lower quartile costs and a potentially world class gold project in the making. Given all this, moving ahead, IGM looks likely to attract the attention of the majors which have over the years have become increasingly reliant on juniors for their future projects.

### **About the author**

Dr Michael Green is an independent analyst who specialises in growth companies and resources companies. He gained a BSc and PhD in Mining Engineering from Nottingham University. Having been involved in consultancy work, he began working in the London financial market in the 1980s as a Resources Analyst with stockbrokers Buckmaster & Moore and then HSBC-owned Greenwell Montagu Securities. Subsequently, he was involved in analysing a wide range of growth companies and became Head of Research at stockbroker Everett Financial which specialised in the small cap market. Since, 2006 Michael has been an independent analyst. UK-based DOC Investments Ltd provides research and investor relations.

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