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**Business**

**Gold mining and exploration  
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**Financials**

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## Brandy Creek

**Additional new area to Brumby where  
successful first-time drilling points to an  
obviously much larger potential project**

**High grade gold project with growing potential.** InterGroup Mining's (IGM) project has a great address lying in the Charters Towers Gold Province in Queensland, Australia where in excess of 20Moz of high-grade gold has been mined. The project area contains a number of historical mines with exceptional gold grades such as: Brilliant Brumby, Surprise and Brandy Creek. Compelling 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 started mining.

**Impressive results from initial drilling.** As part of the 2018 drilling programme, a total of 21 RC holes were drilled for 2,203.5m at Brandy Creek to investigate the extent of the mapped historical 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. The results from this initial drilling programme do confirm gold in quartz-vein mesothermal mineralisation, which is well-known for its high-grade deep structures which hold a substantial amount of gold.

**Big similarities with the Brilliant Brumby Line.** The largest discoveries at IGM's project have been along a prominent 2km trend in ML 100008. In the south of the mining licence lie the Brilliant Brumby and Brumby North prospects with strike lengths of 280m and 200m respectively. The feeling is that these probably join up which would add another 50m for a 500m overall strike length. Just 5km away, Brandy Creek is fast showing big similarities.

**Brandy Creek mining licence being fast tracked.** An expanded drilling programme is now planned at Brandy Creek. In the meantime, a mining licence is being fast tracked. The plan is that Brandy Creek will be developed in much the same way as Brumby ML 100008 with the focus also on early stage mining and cash flow generation. The material is likely to be processed on site at the expanded processing facilities in ML 100008. Planned expansion of early stage gold production in this additional area should further reduce dilution for shareholders in the future.

**Scale of the project seems to be growing fast.** Highly successful initial exploration at Brandy Creek suggests it will be an important new area in addition to Brumby; and thereby increase the scale of this already potentially large high-grade gold project. As with Brumby, further drilling and sampling programmes at Brandy Creek are planned to define a maiden and expanding JORC resource allowing for an increasing valuation to be placed on this rapidly growing project. Moving ahead, IGM looks likely to attract the attention of the majors which are increasingly reliant on juniors to provide them with their projects for the future.

*Legendary large high-grade gold mines*

*Brandy Creek*

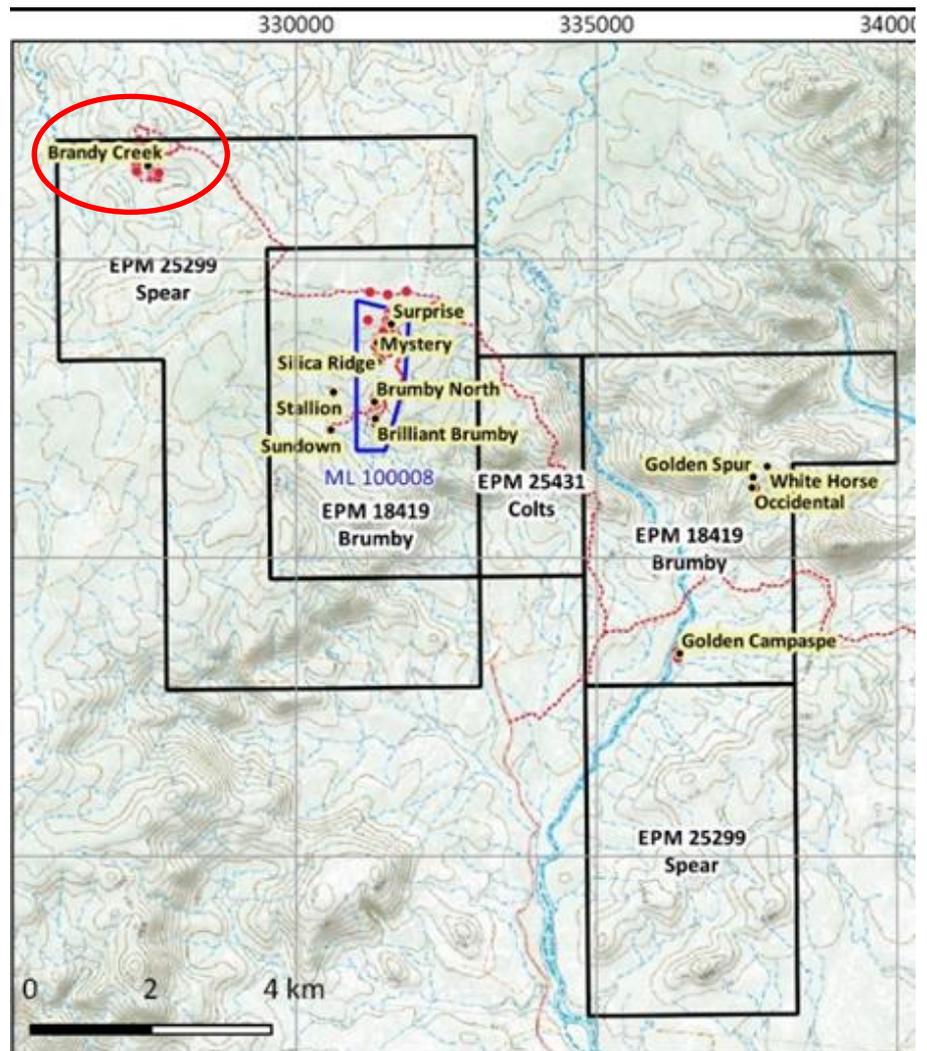
*Average gold grade of 51g/t*

## INTRODUCTION

InterGroup Mining (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. The project lies within an underexplored area of the well-known Charters Towers Gold Province, with its legendary large high-grade gold mines.

The Charters Towers Gold Province has seen in excess of 20 million ounces of gold production from: mines in the Charters Towers area (7.1Moz), Pajingo-Vera Nancy (3.8Moz), Ravenswood (3.1Moz), Mount Wright (1Moz), Mount Leyshon (3.5Moz), Mt Carlton (1.4Moz) and Wirrelie (1Moz).

IGM's project consists of a mining lease (ML 100008 - 179.6 hectares), along with four Exploration Permits for Minerals (EPM) that cover more than 200km<sup>2</sup> of highly prospective ground.



***The location of Brandy Creek and some of the other prospects drilled in the 2018 RC drilling programme***

The project area contains a number of historical mines with exceptional gold grades which include: Brilliant Brumby, Surprise and Brandy Creek. 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 had an average gold grade 51g/t and lies within the Spear EPM 25299. It is only quite recently that the team drove a road in and gained access, however highly encouraging early drilling results have resulted in a mining licence being fast tracked for this area.

## *Mt Stewart gold rush*

## *Mesothermal gold*

## *Relatively shallow*

### **BACKGROUND**

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

Brandy Creek actually marks the site of the first recorded gold found on the Lolworth Range and historic high-grade gold production was recorded here intermittently from 1932 to 1936. Government reports from 1932 – 35 show that a total 83.5t of ore was treated for 137.4 ounces, suggesting an average grade of 51g/t gold. 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.

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. 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. Lolworth granite has the potential for small-medium sized mesothermal vein deposits, formed by hydrothermal fluids rising up through the earth's crust, a major source of world gold production.

So, the geology of the wider project area is seen to be dominated by granites. The majority of the target areas that have been discovered to date seem to roughly lie along linear geological structures, which are ideal locations for gold mineralisation. The main targets are gold mineralisation in veins and stockwork which are mineral deposits that have been formed by a network of veinlets in random directions.

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. Essentially, sericite is a fine-grained mica which is a common alteration mineral seen in areas subjected 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 away over millions of years.

*Impressive grades  
and widths*

*47g/t gold*

## DRILLING RESULTS

The 2018 drilling programme was designed to confirm earlier results which have shown 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.

Late-August 2018 saw the commencement of Reverse Circulation (RC) drilling programme to test these targets. By the end of 2018, 144 holes had been completed for a total of 10,881 metres, with the main focus being the testing of the subsurface and deeper extension of the Brilliant Brumby line on ML 100008 where three-quarters of the holes were drilled.

Brandy Creek saw a total of 21 RC holes drilled for 2,203.5m, which were targeted at investigating the extent of the mapped historical workings and mineralised quartz veins. There is no doubt that these drilling results showed impressive grades and widths, with a number of drill holes intersecting multiple gold veins.

RC Hole	Brandy Creek Prospect Intercepts from 2018 RC drilling programme
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>2.6g/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	4m @ <b>2.65g/t</b> Au from 40m (including 1m @ <b>4.95g/t</b> Au, 0.25% Pb from 40m) 1m @ <b>1.11g/t</b> Au from 46m
BBRC166	1m @ <b>6.15g/t</b> from 57m
BBRC167	2m @ <b>27.09g/t</b> from 80m (including 1m @ <b>47g/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	1m @ <b>7.63g/t</b> Au, 0.18% Pb, 0.2% Zn from 58m

The best results came from the fan of holes drilled into the NW lodes and the cross section (down to 70m) and plan views are shown overleaf.



## COMMENT ON DRILLING RESULTS

Two of key takeaways from the first drilling of Brandy Creek in common with the results of the 2018 drilling programme across the wider project area are that the gold veins discovered were both high-grade and mesothermal. On top of these key points, Brandy Creek is fast showing some big similarities with the Brilliant Brumby line and as such clearly represents a new highly important area in addition to Brumby ML 100008.

### 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 these days.

### 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

Results already available seem to 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.

### Additional new area to Brumby

So far, the biggest discoveries over the larger project have been along a prominent 2km trend in ML 100008. In the south of the mining licence lie the Brilliant Brumby and Brumby North prospects with strike lengths of 280m and 200m respectively. The feeling is that these probably join up which would add another 50m for a 500m overall strike length.

Initial drilling results have shown the obvious potential of Brandy Creek, which represents an additional new area to Brumby where exploration and mining attention is likely to be targeted moving ahead.

## STRATEGY

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. The scene does appear set for the possible discovery of a similar sort of trend at Brandy Creek, as the Brilliant Brumby line which lies 5km away.

A mining licence is being fast tracked and once in place, Brandy Creek is expected to be developed in a similar fashion to Brilliant Brumby ML 100008. So, Brandy Creek's development plan is also likely to be designed with the emphasis on early stage mining and cash flow generation.

The gold ore mined at Brandy Creek is likely to be trucked to the processing facilities at ML 100008 for treatment. Currently, there are plans to rapidly increase the nameplate capacity of the processing plant. Also, the team is investigating using laser separation as trials have shown that this technology is able to discard 90% of granitic waste and reduce costs. As with Brilliant Brumby, further drilling and sampling programmes at Brandy Creek are planned towards defining a JORC resource.

*2km long trend*

*Expanded drilling programme*

*Gold targets could connect underground*

*Increasing valuation*

## **PUSHING THE PROJECT RAPIDLY UP VALUATION CURVE**

It does seem that the more IGM explore at this project in Northern Queensland, the more the team finds. Certainly, the company's exploration has been highly successful, and Brandy Creek looks set to increase the scale of this already potentially large high-grade gold project still further. Rather than being isolated targets, all these gold targets could actually connect underground, but this has yet to be proven.

Results from the 2018 exploration and drilling programme that are already available show further impressive results, which serve to increase the scale of the opportunity. 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.

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 JORC-complaint resource being established at Brilliant Brumby ML 100008. A growing combined JORC resource for the entire project would allow an increasing valuation to be placed on IGM by 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 future projects.

### **About the author**

Dr Michael Green is an independent analyst who specialising 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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