

## ASX:CWX

### Directors:

Mr Will Burbury

**Non-Executive Chairman**

Mr David Boyd

**Managing Director**

Mr Bruce McQuitty

Mr David Archer

**Non-Executive Directors**

### Capital Structure

Ordinary Shares: 69.8M

Unlisted Options: 12.3M

Unlisted Rights: 1.9M

Market Capitalisation: \$18M

Cash Reserves: A\$2.6M\*

(\*at 30 September 2019)

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**31 October 2019**

# QUARTERLY ACTIVITIES REPORT FOR THE PERIOD ENDED 30 SEPTEMBER 2019

## HIGHLIGHTS

### Jamieson Project

- Potential for large scale copper and gold porphyry mineral systems at Jamieson established from geochemical and geophysical data
  - Hill 800 mineralisation has a geochemical signature that indicates its source is most likely a fertile copper-gold porphyry
  - Magnetic high anomalies identified at depth at Hill 800 and Rhyolite Creek prospects
- Five exciting new prospects identified around Hill 800:
  - Rock chip samples up to 4.74g/t Au
  - Gossan outcrops mapped – identical to those at Hill 800
- Detailed helicopter-borne aero-magnetic survey commenced to define porphyry targets as depth
- Hill 800 Mineral Resource estimate due in coming weeks
- Drilling commencing at Hill 800 mid-November, initially targeting extensions to known porphyry-related mineralisation at relatively shallow depths
- Jamieson Project tenement holding increased with acquisition of EL6622

### Paterson Project

- \$6 million farm-in and joint venture agreement signed with Rio Tinto Exploration ("RTX") to explore the Baton and Red Dog tenements:
  - RTX to pay \$200,000 cash up-front and subscribe for \$300,000 of Carawine shares
  - RTX required to spend \$1 million on exploration and complete at least 2,000m of drilling within the first two years
  - RTX has the right to earn a 70% interest by spending at least \$5.5 million within six years
  - RTX can earn to 80% interest by sole funding to a discovery milestone, or completion of a scoping-level study on any discovery
- Paterson tenement holding increased by 230km<sup>2</sup> with the addition of four new exploration licence applications won in ballots

### Fraser Range JV (Independence Group NL (IGO) 51%, earning to 70%)

- Infill air core drilling at the Big Bullocks tenement returns anomalous assay results up to 808ppm Ni and 728ppm Cu from end of hole samples at the new Big Bullock 1 prospect.

### Corporate

- Share placement to raise \$3 million in two tranches:
  - First tranche complete, approximately \$2 million raised with the issue of 13.96 million fully paid ordinary shares
  - Second tranche to raise approximately \$1 million is subject to shareholder approval at AGM on 14 November 2019
- Cash position of A\$2.6 million as at 30 September 2019

## ACTIVITY SUMMARY

Exploration activities completed during the quarter are summarised as follows:

### *Jamieson Project*

- Analysis of multi-element geochemical data from 19 diamond drill holes at Hill 800 completed by consultant Dr. Scott Halley.
- Anomalies in regional-scale magnetic data modelled.
- New tenement EL6622 acquired to the west of and adjacent with Jamieson tenement EL5523

### *Paterson Project*

- Ground gravity and heritage survey completed over the Javelin, Wheeler and Discus prospects
- Four exploration licence applications won in tenement ballots subsequent to the end of the period

### *Fraser Range Joint Venture ("FRJV")*

- Ground based moving loop electromagnetic (MLEM) survey completed at the Aries prospect, Similkameen tenement
- Two reverse circulation (RC) holes drilled targeting a MLEM conductor, 389m total.
- Assay results received from infill air core (AC) drilling at Big Bullocks.

### *Fraser Range Project (Carawine 100%)*

- New tenement "Big Bang" granted in the Central Fraser Range, near recent nickel and gold discoveries including Thunderstorm (IGO / Rumble Resources JV) and Lantern (Galileo Mining)

### *Oakover Project*

- No on-ground work during the period

Results of these activities are summarised on page 1 and detailed in the following sections.



Figure 1: Carawine's project locations.

## JAMIESON PROJECT

The Jamieson project is located on unrestricted crown land within the Mt Useful Slate Belt geological province. The region was founded on gold mining in the 1850s and a number of gold mines have operated or are currently in production in the region. Carawine is advancing two main prospect areas at the Jamieson Project: Hill 800 and Rhyolite Creek.

Hill 800 is the most advanced prospect, with drilling to date returning outstanding widths and grades of gold and copper mineralisation, e.g. 93m @ 3.22g/t Au from 2m, *including* 31m @ 6.64g/t Au from 58m (H8DD006) (Figure 2) (refer ASX announcement 27 May 2019). Around Hill 800 five near-surface gold targets have been generated, each with characteristics similar to the mineralisation at Hill 800.

The Rhyolite Creek prospect is about five kilometres south of Hill 800 and comprises two potential large-tonnage, low-grade gold-copper targets and one high grade seafloor-position VHMS gold and base-metal target.

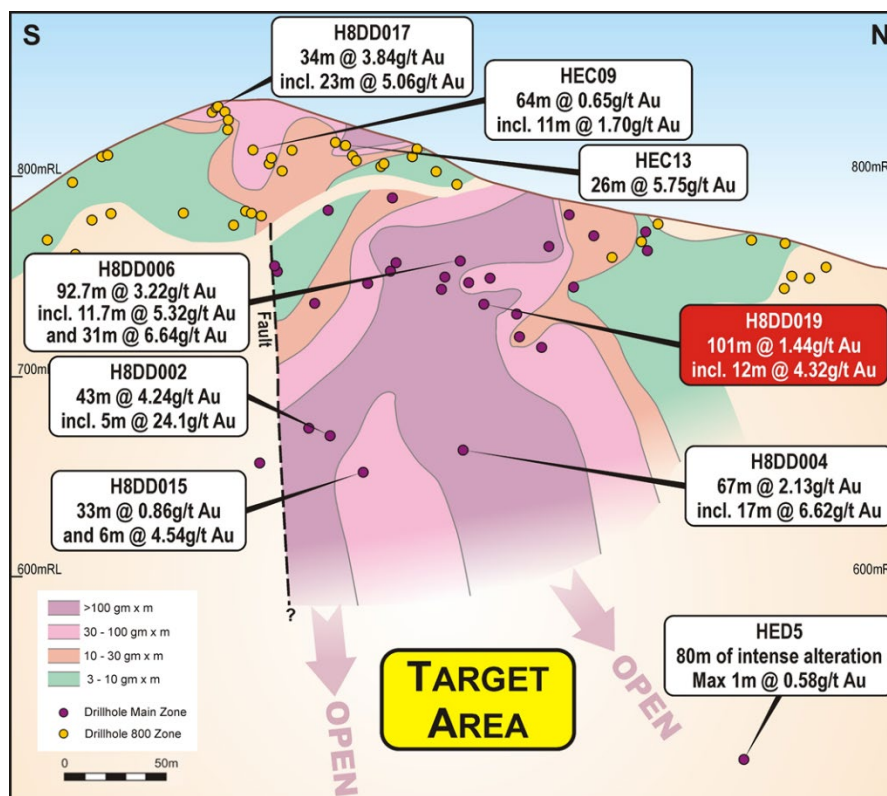


Figure 2: Hill 800 long section (+/- 60m), looking west with selected intervals labelled.

### Hill 800 Prospect

During the quarter the Company established the potential for mineralisation at Hill 800 to be related to a copper-gold porphyry system. Development of this model started with the identification of five new prospects in the vicinity of Hill 800 from a combination of mapping and surface sampling which showed affinities to magmatic-related mineralisation, along with the potential for the existence of deep magmatic systems at Jamieson as indicated in regional magnetic data (Figure 5) (refer ASX announcement 15 July 2019).

The Company then approached Dr Scott Halley from Mineral Mapping Pty Ltd to provide an analysis of multi-element lithogeochemical data from its diamond drill holes at Hill 800, to investigate the potential link between the Hill 800 mineralisation and magmatic mineral systems.

The key outcomes from Dr Halley's work are summarised as follows:

1. The gold-mineralised zone at Hill 800 has a strong gold (Au), tellurium (Te), bismuth (Bi) and selenium (Se) association which is most like that of magmatic fluids originating from a copper-gold porphyry intrusion (referred to as a "fertile" porphyry).

Typical values of these pathfinder elements observed in higher levels above fertile porphyries are in the order of Te > 1 ppm, Bi > 1 ppm and Se > 4 ppm. At Hill 800, the data show significantly elevated values for these elements (Figures 3 & 4, refer ASX announcement 11 September):

- H8DD002 43m @ 4.24g/t Au, 0.3% Cu, **19.5ppm Te, 19.1ppm Bi and 4ppm Se** from 177m
- H8DD006: 92.7m @ 3.25g/t Au, **43.0ppm Te, 1.1ppm Bi and 22ppm Se** from 2.3m
- H8DD019: 101m @ 1.44g/t Au, **27.8ppm Te, 1.8ppm Bi and 12ppm Se** from 21m

(Downhole widths, refer ASX announcement 11 September)

2. Geochemical fingerprinting of the rock types at Hill 800 shows that most of the gold intersected to date occurs within the rock unit geochemically classified as rhyodacite.
3. The types of magmas that form porphyry copper-gold deposits have very distinctive chemical compositions. The preferentially mineralised rock unit at Hill 800 has a chemical composition that matches compositions observed in porphyry copper-gold magma and is therefore most likely sourced from a copper-gold porphyry intrusive complex.
4. Primary Porphyry copper-gold magmas are invariably magnetic. There is a high-intensity magnetic anomaly at depth below Hill 800 (Figure 5), and therefore a reasonable probability that this is highlighting the source of the preferentially mineralised rock at Hill 800. This magnetic feature is a high priority exploration target, with the style of mineralisation more likely to be porphyry Cu-Au-Mo rather than the Au-Te-Bi intersected closer to surface (e.g. Figure 4).

The geochemical data also defines an alteration pattern at Hill 800 which is typical of porphyry mineral systems. Proximal to and associated with the Main mineralised zone at Hill 800, the intense silica-sericite (paragonite)-pyrite alteration has a geochemical signature consistent with phyllic alteration. Associated with lower gold grades and more distal to the main mineralised zone, moderate sericite-chlorite alteration has a geochemical signature consistent with propylitic alteration (Figure 3) (refer ASX announcement 11 September 2019).

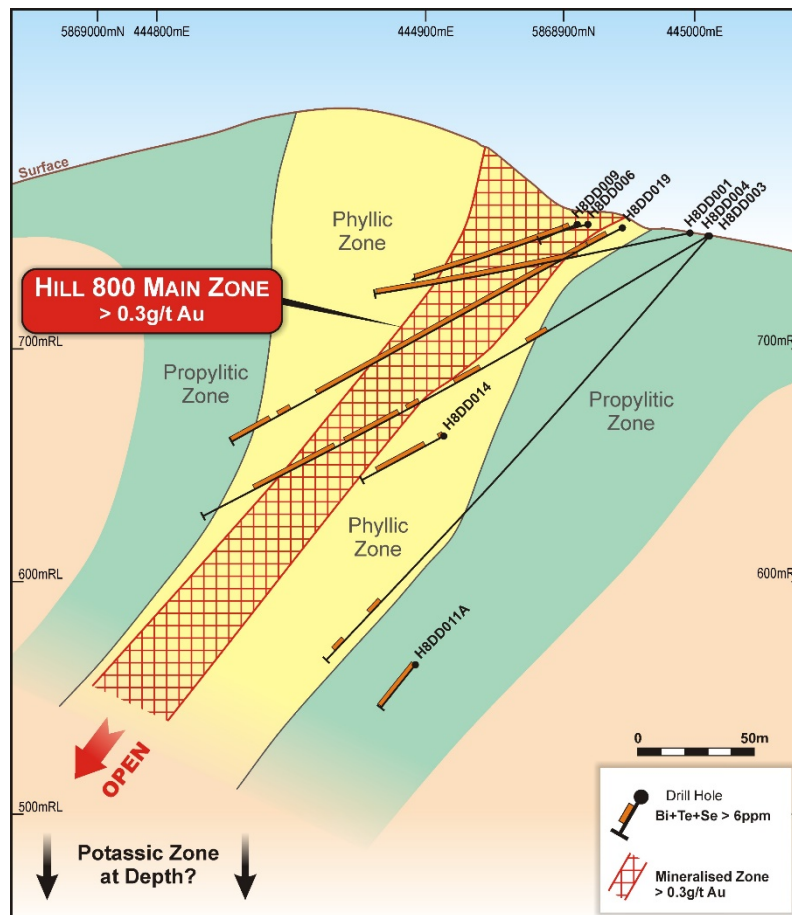


Figure 3: Hill 800 cross-section J-J' (window +/- 20m) showing alteration zones and pathfinder elements.



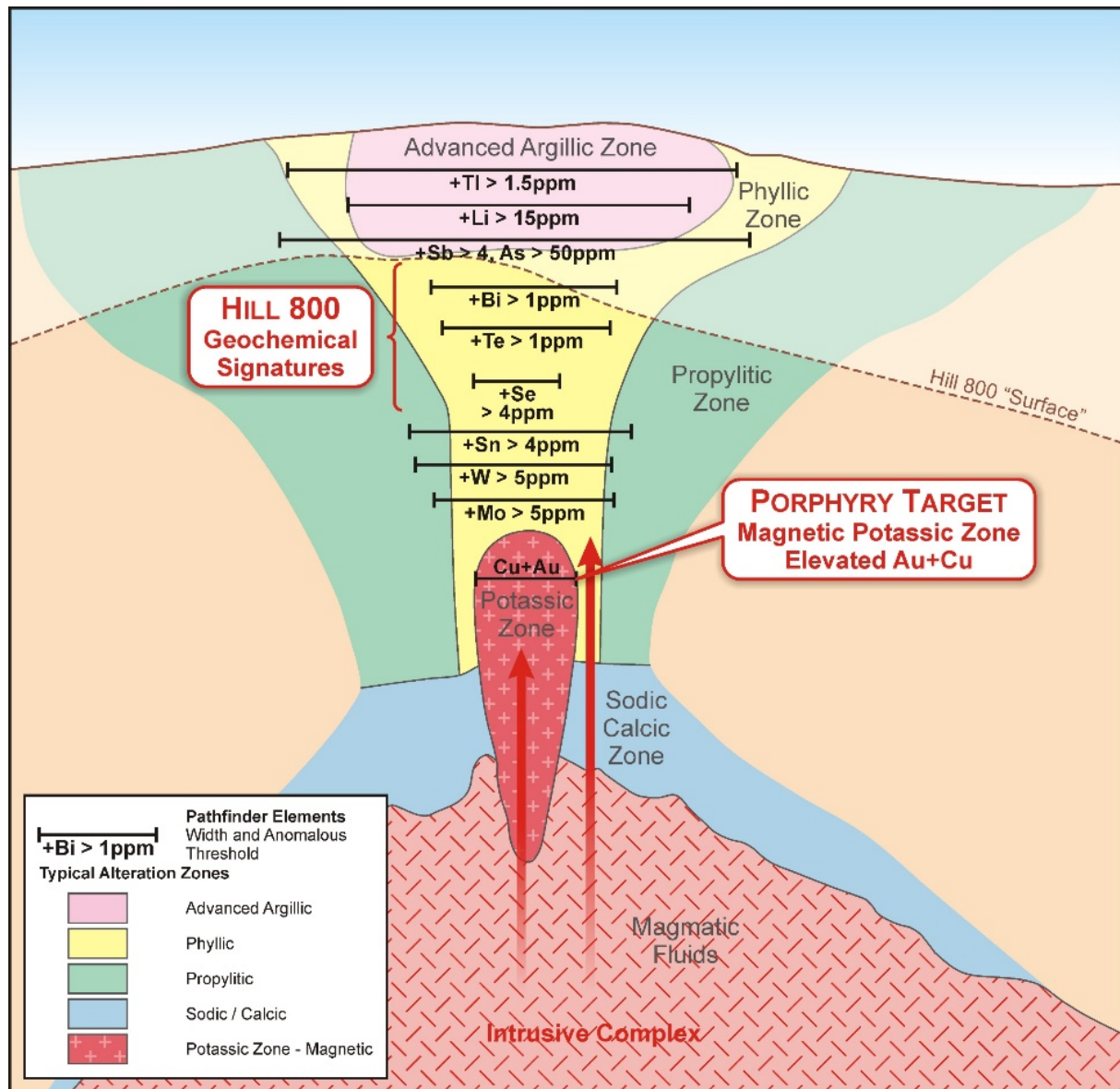


Figure 4: Schematic diagram showing the pathfinder geochemical and alteration patterns of a typical porphyry copper-gold mineral system and the relative location of Hill 800 (modified from Halley et al, 2015).

#### Jamieson Copper-Gold Porphyry Targeting

Mineralisation at Hill 800 is therefore most likely to be sourced from a fertile copper-gold porphyry intrusion at some distance from the deposit. A key targeting feature for gold-copper porphyry deposits is the biotite-magnetite alteration associated with the potassic zone, which therefore commonly appears as an anomaly in magnetic (geophysical) survey data.

Two broad magnetic anomalies are recognised from regional-scale magnetic data at the Jamieson project, one beneath the Rhyolite Creek prospect area and another, stronger one beneath the Hill 800 prospect area and surrounds (Figures 5 & 6). These magnetic anomalies could therefore be associated with the potassic zone of copper-gold enriched porphyries (refer ASX announcement 11 September 2019).

Modelling of the magnetic anomalies at Hill 800 indicate multiple magnetic bodies with depths of between 200m and 600m below surface. However, as the models are based on regional scale data, more detailed data is required to refine these models with enough accuracy to effectively target drill holes.

Subsequent to the end of the quarter the Company had commenced a detailed, low-level helicopter-borne magnetic and radiometric survey to cover the Cambrian-aged Jamieson Volcanics. Results from this survey are expected mid-Q4 2019, and will be used to define potential targets for drill testing (refer ASX announcement 16 October 2019).

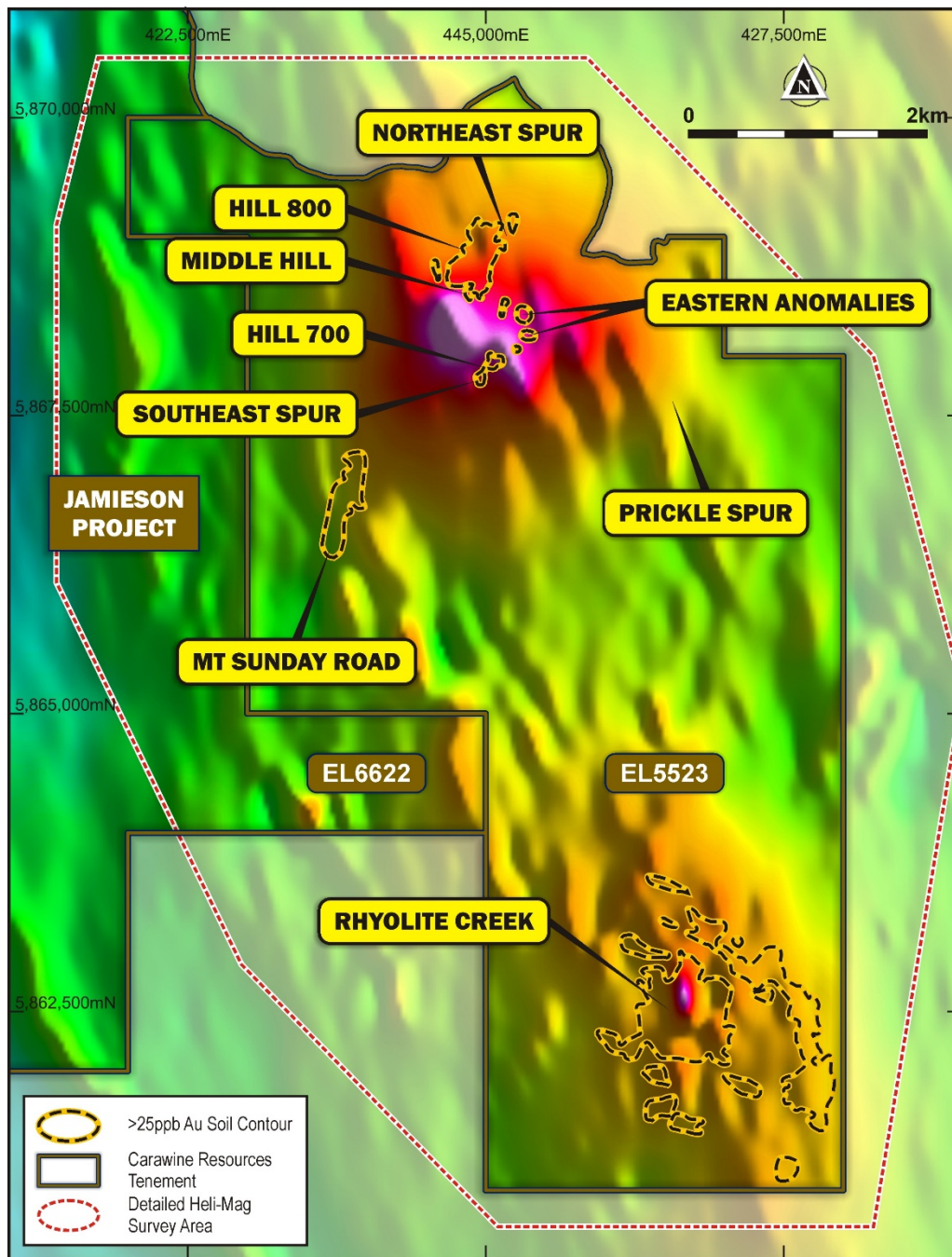


Figure 5: Detailed magnetic survey area shown on a regional-scale magnetic image, note the distinct magnetic high anomalies (orange, red, pink colours) beneath Hill 800 and Rhyolite Creek prospect areas.

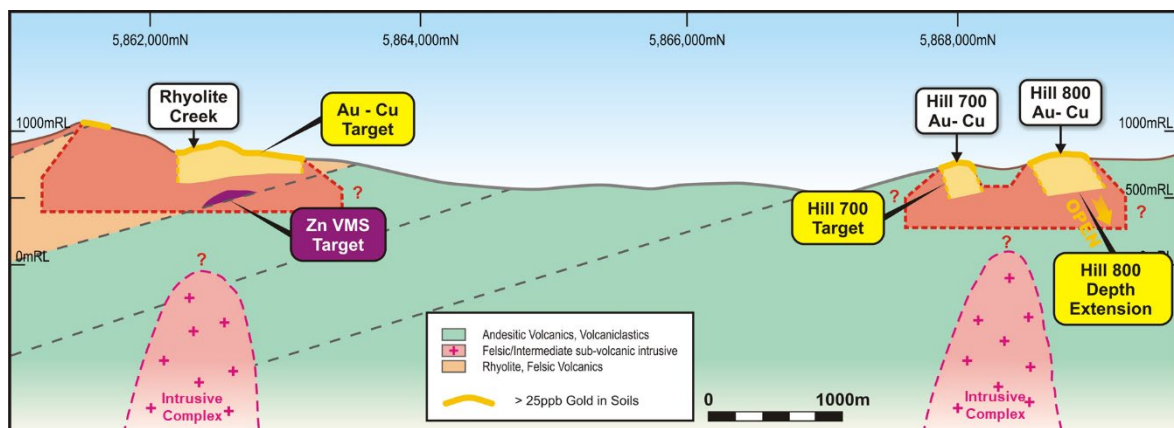


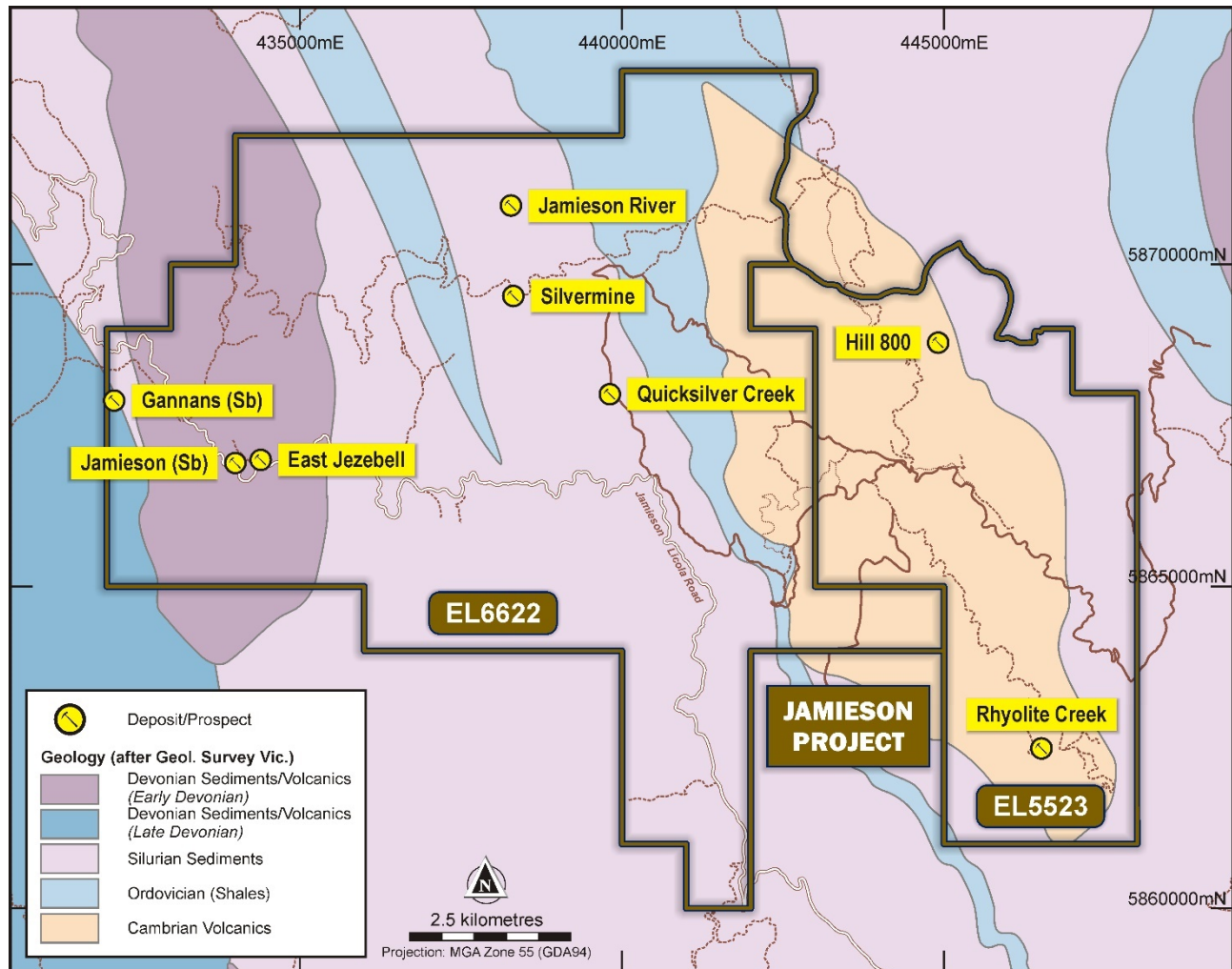
Figure 6: Schematic long section schematic showing previously announced potential relationships of porphyry intrusive complexes with the main Jamieson prospect areas (refer ASX announcement dated 15 July 2019).



## New Tenement EL6622

During the quarter the acquired granted exploration licence EL6622 at nil cost, immediately adjacent and to the west of tenement EL5523. EL6622 was granted on 30 July 2018 for a period of five years and was transferred to Carawine on 22 August 2019. The tenement includes Cambrian-aged volcanic rocks, expanding Carawine's coverage of the main host stratigraphy and providing flexibility in managing the Jamieson Project tenure (Figure 7).

The Company is reviewing records of previous exploration on EL6622, which contains a historic gold occurrence at Jamieson River, and other historic workings hosted in younger, Silurian-aged sedimentary rocks (Figure 7). A compulsory partial reduction of EL6622 was completed subsequent to the quarter.



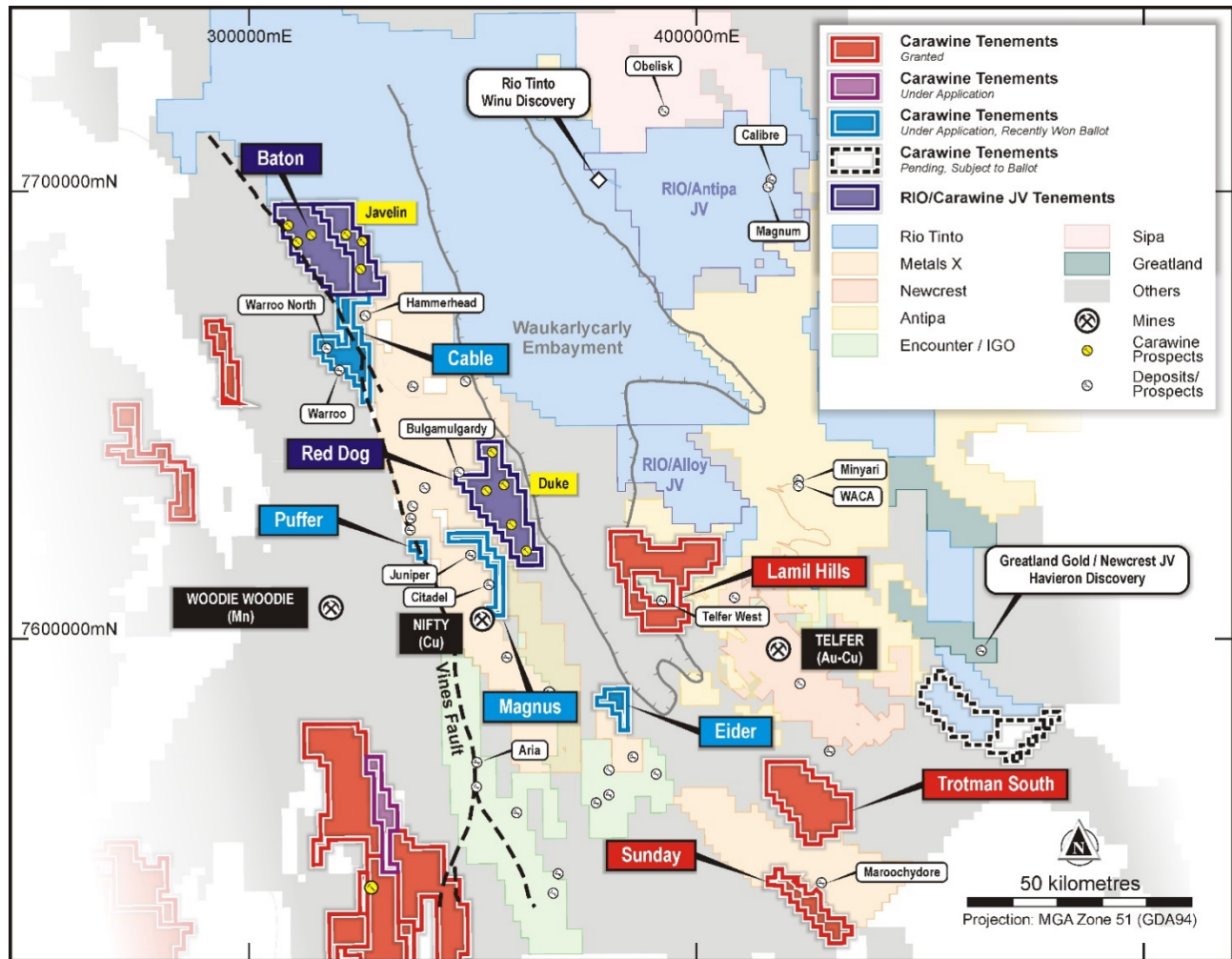
*Figure 7: Jamieson Project tenements and regional geology.*

## Upcoming Work Programs

The following programs are planned for the Jamieson Project during Q4 2019 and onwards:

- Detailed helicopter-borne magnetic survey, results mid-Q4 2019
- Hill 800 Mineral Resource due prior to drilling commencing mid-November 2019.
- Hill 800 diamond drilling commencing mid-November 2019, initially targeting extensions to known porphyry-related mineralisation at relatively shallow depths.
- Diamond drilling targeting potential porphyry targets at depth at Hill 800 & Rhyolite Creek, dependent on results of helicopter-borne magnetic survey
- Diamond drilling at Rhyolite Creek, targeting near-surface gold and copper mineralisation and high-grade gold-zinc VMS mineralisation (refer ASX announcement 15 July 2019).

## PATERSON PROJECT



**Figure 8: Carawine's Paterson project tenements and those of other selected explorers in the region.**

The Company's Paterson Project is located in the Paterson Province of Western Australia, a region which is host to a number of world-class gold and copper deposits, including Newcrest's Telfer gold and copper deposit and Metals X's Nifty copper deposit. The region has seen a marked increase in exploration activity recently, following two major new finds within 12 months: Winu, a potentially large sediment-hosted copper deposit discovered by Rio Tinto Limited and Havieron, an intrusion-related gold and copper deposit discovered by AIM-listed Greatland Gold PLC (Figure 8).

### West Paterson Farm-In and Joint Venture Agreement

Subsequent to the end of the quarter the Company entered into a Farm-In and Joint Venture Agreement with Rio Tinto Exploration Pty Limited ("RTX") to explore Carawine's Baton (E45/4871 & E45/4955) and Red Dog (E45/4881) Tenements (Figure 8). RTX is a wholly owned subsidiary of Rio Tinto Limited ("Rio Tinto") (ASX:RIO). A summary of the key terms of the agreements is as follows:

- RTX will pay Carawine A\$200,000 in cash within 30 days of execution of the Agreement
- RTX must complete the following within the first two years of the Agreement (the "Minimum Commitment"):
  - exploration expenditure of at least A\$1 million, and
  - at least 2,000m of diamond and/or RC drilling
- At the completion of the Minimum Commitment, RTX will subscribe to A\$300,000 worth of Carawine shares, calculated using the 20-day volume-weighted average price immediately prior



to subscription (“Share Subscription”). RTX must complete the Minimum Commitment and the Share Subscription before it can withdraw from the Agreement.

- RTX then has the right to earn a 70% interest in the Tenements by completing the following within six years of the Agreement date:
  - 3,000m of diamond or reverse circulation (“RC”) drilling, and
  - exploration expenditure of A\$5.5 million, both inclusive of the Minimum Commitment.
- Once RTX has earned a 70% interest in the Tenements, a Joint Venture will be formed.
- Following the formation of the Joint Venture, RTX have the right to earn an additional 10% interest in the Tenements by sole funding Joint Venture expenditure up until the earlier of:
  - definition of total Mineral Resources on the Tenements containing material with an *in-situ* (in-ground) value equivalent to at least A\$1 billion; or,
  - completion of a scoping-level study in respect of any mineral deposit discovered on the Tenements.
- Once the Joint Venture is formed and following either RTX earning an extra 10% interest through achievement of the sole funding milestones, or electing not to sole fund an extra 10% interest, either party may elect to contribute to Joint Venture expenditure according to its interest or dilute.
- If either party’s interest falls to below 10%, then this interest will automatically convert to a 1% net smelter royalty payable on the first fifteen years of production.

For further details refer to Carawine’s ASX announcement dated 28 October 2019.

### **New Exploration Licence Applications**

During the quarter tenement E45/5326 “Lamil Hills” was granted. Lamil Hills is 25km northwest of Telfer and surrounds Encounter Resources’ (ASX:ENR) Lamil Copper-Gold Project and Telfer West prospect (Figure 8).

Subsequent to the end of the quarter, four exploration licence applications were “won” in ballots conducted by the Mining Warden of Western Australia. The priority of exploration licence applications are determined by ballot when multiple tenement applications are made simultaneously for overlapping areas.

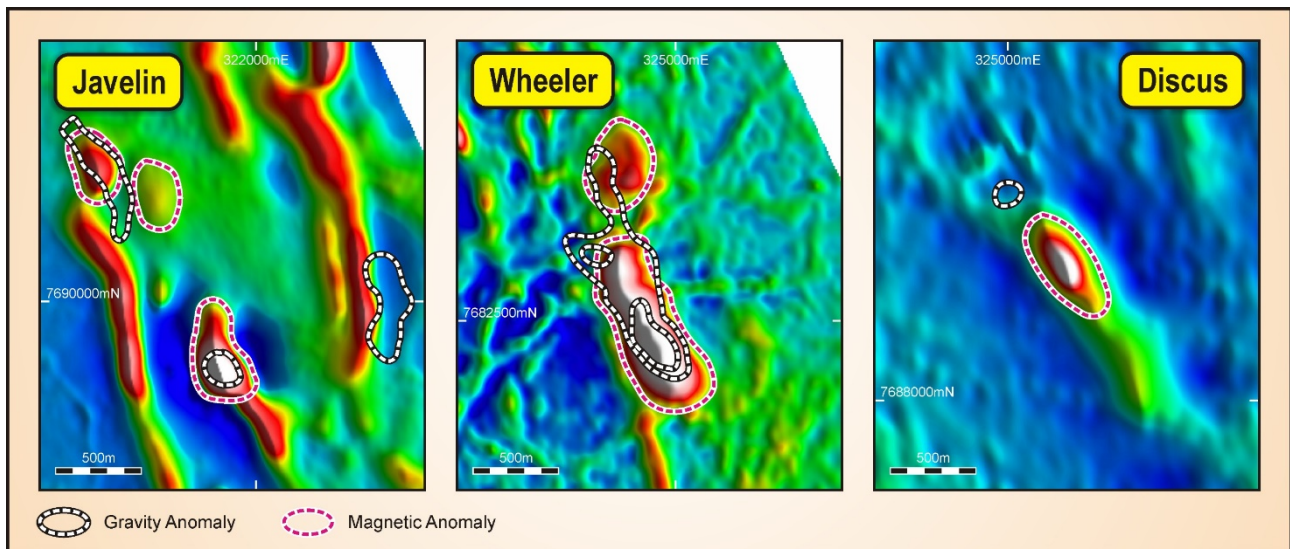
The four exploration licence applications, named Cable, Magnus, Puffer and Eider are located in the western part of the Paterson Province, and cover parts of the Broadhurst, Yandanunyah and Isdell Formations (Figure 8). The Cable and Puffer tenements straddle the Vines Fault, a major regional structure associated with several exploration prospects. The Broadhurst Formation is host to Metals X’s Nifty copper deposit, with Magnus and Puffer located just 1km and 20km respectively from Nifty.

The Cable tenement is immediately adjacent to the Company’s granted Baton tenements which are subject to a farm-in and joint venture agreement with Rio Tinto Exploration Pty Ltd (refer ASX announcements 28 October 2019).

### **Baton**

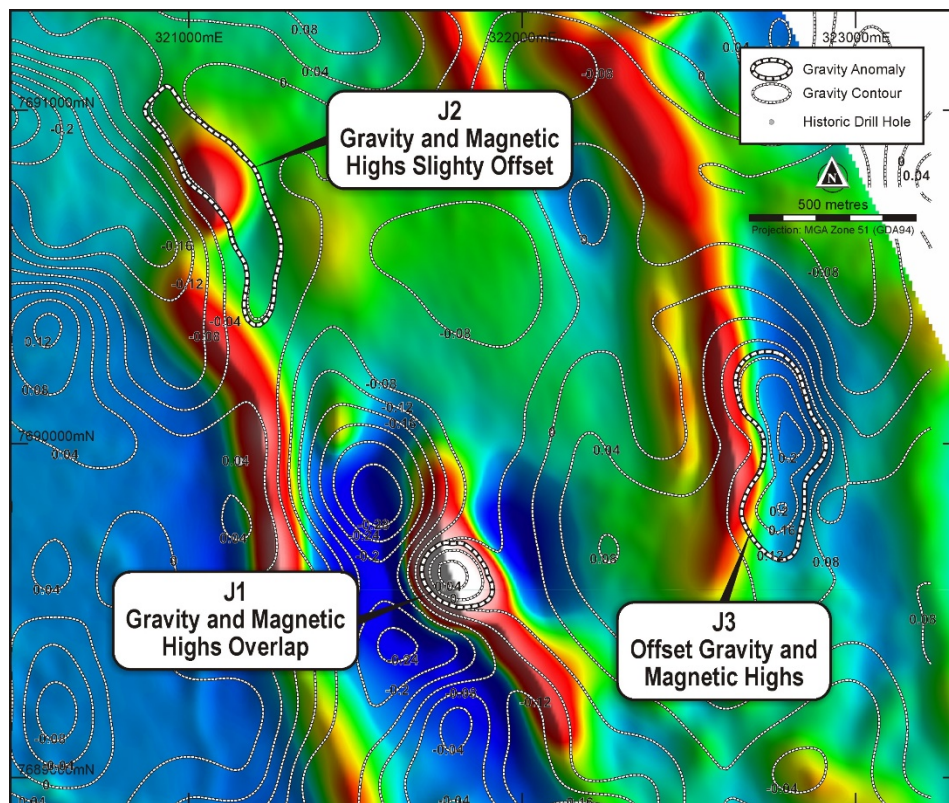
During the quarter, prior to entering the farm-in and joint venture agreement with RTX, the Company completed detailed ground gravity surveys over the Wheeler, Javelin and Discus prospects, with the results highlighting six targets with combined gravity and magnetic anomalies (Figure 9).

The gravity survey comprised a total of 730 stations collected on a 200m x 200m grid with infill to 100m x 100m over selected areas, following a detailed airborne magnetic survey completed in June 2019. The gravity survey was successful in identifying several anomalously dense bodies associated with the magnetic anomalies, as follows (Figures 9 to 11; refer ASX announcement 27 August 2019):



**Figure 9: Gravity and magnetic anomalies at Javelin, Wheeler and Discus.**

- Javelin** - Three shallow (<100m) local magnetic anomalies, two with coincident gravity high anomalies. Anomaly J1 comprises a clear gravity high centred directly over a magnetic high, indicating the anomalies may have the same source (dense, magnetic mineralisation or primary source rock). Anomaly J2 has the peak gravity high slightly offset from the magnetic high, possibly representing demagnetised/alteration zonation. Anomaly J3 has a strong target model response, with an intense gravity high offset from but parallel an anomalous magnetic unit.
- Wheeler** – Elongate magnetic anomaly about 800m-1000m in length, with a separate magnetic anomaly immediately to the north, located at the contact of Broadhurst and Isdell Formations. Both magnetic anomalies have associated gravity anomalies. Target W1 comprises a discrete gravity high coincident with and centred over the peak of the main magnetic anomaly. Targets W2 and W3 are both slightly offset but strongly associated with adjacent magnetic anomalies and potentially demagnetised/alteration zones.



**Figure 10: Javelin prospect gravity and magnetic anomalies (RTP magnetic image, gravity contours (mGal)).**



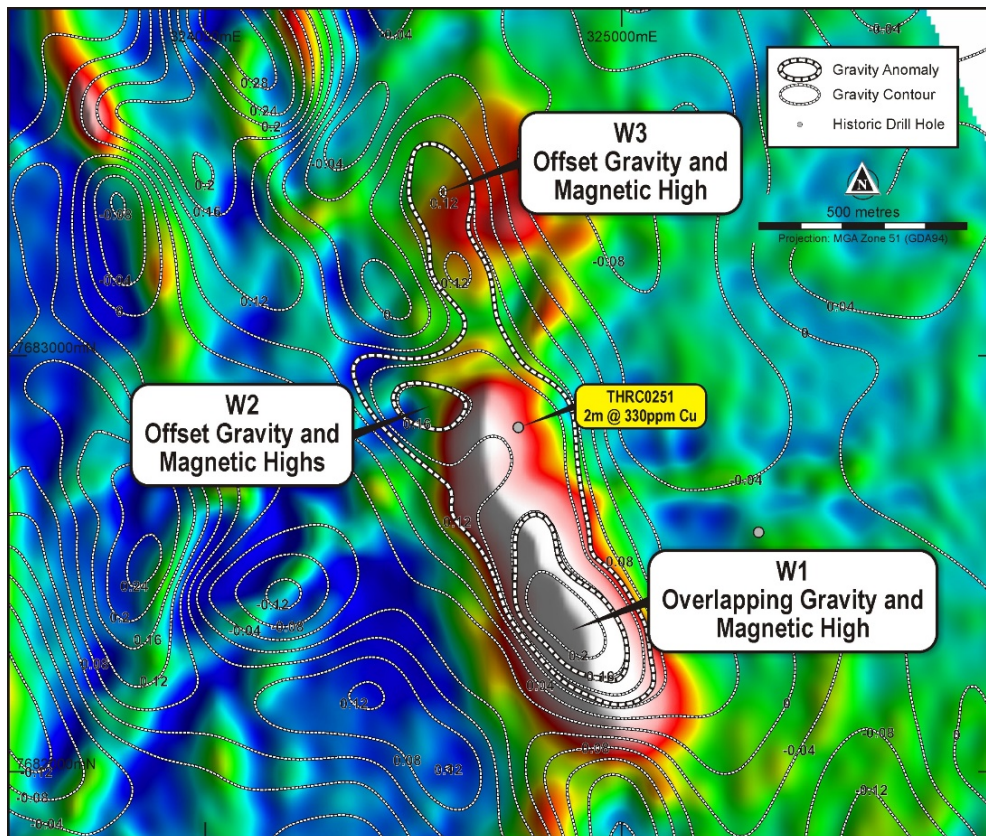


Figure 11: Wheeler prospect gravity and magnetic anomalies (RTP magnetic image, gravity contours (mGal)).

- **Discus** - Strong magnetic unit 400m-600m long in Isdell Formation and untested by drilling. The discrete magnetic anomaly at Discus is associated with a broad gravity low which may represent deeper weathering in this area. A subtle, low-order gravity anomaly to the north-west may represent offset mineralisation or be related to primary rock type (Figure 9).

Coincident magnetic-gravity anomalies are considered to increase the potential of a target to host certain types and styles of mineralisation, compared to targets based on magnetic anomalies alone. An example of this is Greatland's Havieron gold and copper prospect, where magnetic and gravity anomalies associated with the mineralisation were used to target the discovery drill holes. The targets identified at Baton from the gravity survey are therefore considered to be priority targets for future testing, in addition to the numerous other targets identified from work completed to date at Baton.

### Upcoming Work

Carawine will continue target generation activities on its granted tenements, including Lamil Hills which was granted during the quarter, and review work completed by previous explorers on its new tenement applications as it progresses these towards grant.

The Company will continue to consider all options for advancing its Paterson project tenements, including progressing exploration programs in its own right, and/or possible joint venture opportunities.

## OAKOVER PROJECT

Neighbouring the Paterson Project, also in Eastern Pilbara region of Western Australia, the Company's Oakover Project comprises nine granted exploration licences and six exploration licence applications with a total area of about 3,270km<sup>2</sup>, held 100% by the Company (Figure 12). The Oakover Project is considered prospective for copper, cobalt, manganese and iron.

During the quarter tenement E46/1301 "Deep Bore" was granted. Deep Bore is about 30km south of the Nicholas Downs manganese deposit in the southern Oakover Basin (Figure 12), and is considered prospective for near-surface, sediment-hosted manganese.



No on ground work was completed during the quarter, however the Company continues to actively review its tenements with regard to their significant manganese and iron ore potential, with a view to seeking expressions of interest from third parties to explore the Project.

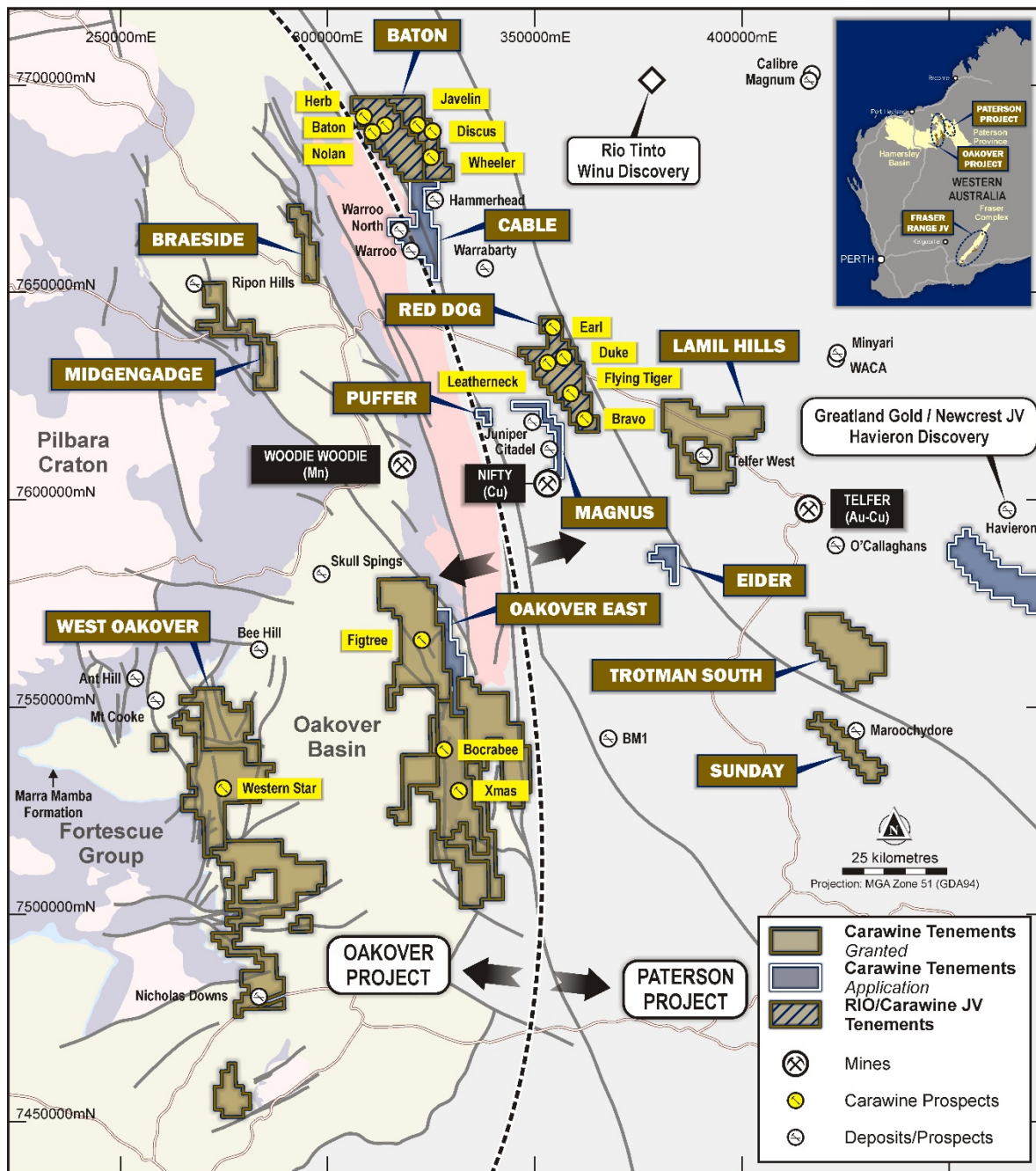


Figure 12: Oakover and Paterson Project tenement location plan.

## FRASER RANGE PROJECT

The Fraser Range Project includes 6 granted exploration licences in five areas: Red Bull, Bindii, Big Bullocks, Similkameen and Big Bang in the Fraser Range region of Western Australia. The Project is considered prospective for magmatic nickel-sulphide deposits such as Independence Group NL's (IGO) Nova nickel-copper-cobalt operation (Figure 13).

Carawine has a joint venture with IGO over the Red Bull, Bindii, Big Bullocks and Similkameen tenements (the Fraser Range Joint Venture). IGO are managing and operating the joint venture, they currently hold a 51% interest and can earn an additional 19% interest in the tenements by spending \$5 million by the end of 2021.

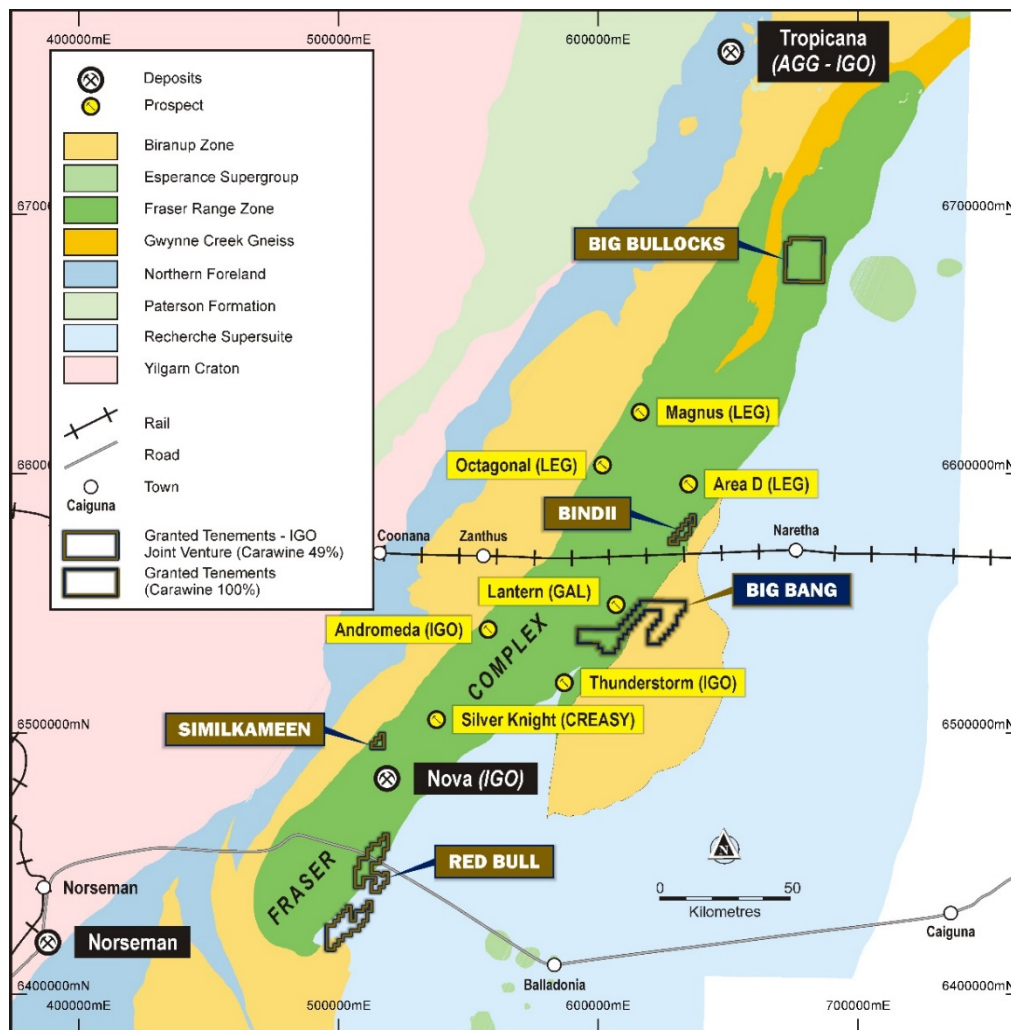


Figure 13: Fraser Range Project tenements.

#### Fraser Range Joint Venture (IGO 51%, earning to 70%)

Encouraging results have been reported by IGO from the Fraser Range JV, including elevated silver (Ag), copper (Cu), lead (Pb) and zinc (Zn) assay values from RC drilling targeting an interpreted MLEM conductor identified at the Aries prospect (Similkameen tenement), and anomalous Ni values returned from AC drilling on the Big Bullocks tenement at the newly defined Big Bullock 1 prospect.

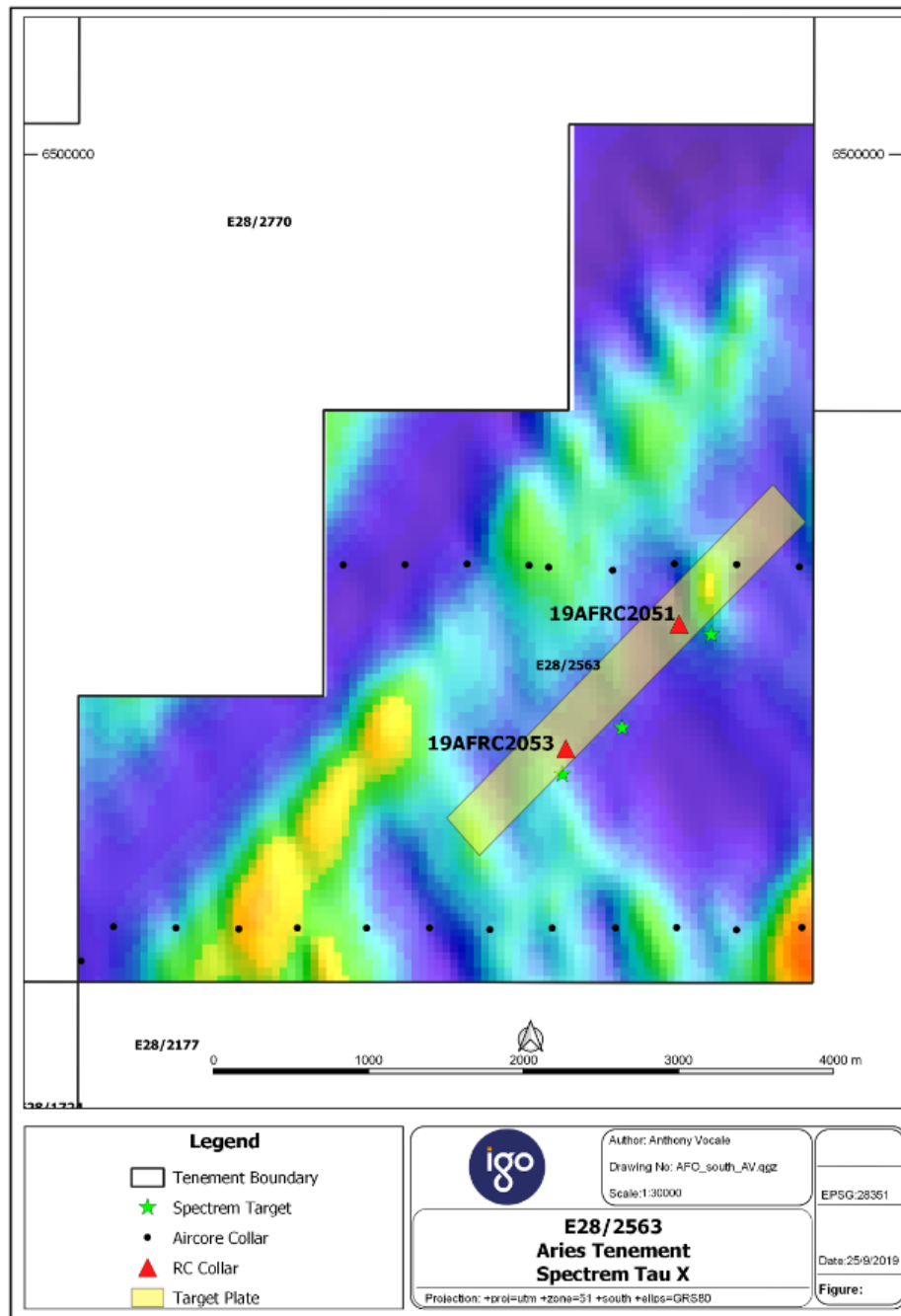
##### Aries Prospect (Similkameen E28/2653)

The Aries prospect, within the Similkameen tenement 15km north of Nova, is on the eastern side of the Fraser Shear and is recognised as being within the Andromeda volcanic-hosted massive sulphide (VHMS) belt, about 50km southwest and along strike from IGO's Andromeda base metal VMS prospect (refer ASX announcement 29 April 2019).

During the quarter a ground-based MLEM survey was completed at the Aries prospect, which identified a 3,000m x 700m plate-like conductor. Two RC holes were drilled targeting the conductor but failed to intersect significant mineralisation. However, one hole (19AFRC2053) showed a progressive increase in Ag-Cu-Pb-Zn with depth, albeit at low levels (<250ppm Cu) (Figure 14). No significant assay results have been reported. Downhole electromagnetic (DHEM) surveys are planned for both holes.

##### Big Bullocks (E39/1733)

In the June 2019 (previous) quarter, IGO completed a 106-hole / 3,455m infill AC drilling program across the Big Bullocks tenement targeting interpreted dilation zones (Figure 15). The holes were drilled to blade refusal / fresh rock intersecting predominantly felsic to mafic gneiss, the average hole depth for the program is 33m and the depth of transported cover ranges from 1m to 55m (average 14m).



**Figure 14. Aries prospect Spectrem anomalies, regional AC collars, modelled MLEM plate and RC collars (figure supplied by IGO).**

During this quarter, assay results were received from the infill AC program. Whilst no significant (>0.1% Ni) intervals are reported, several holes returned anomalous assay values ranging from 236ppm Ni to 808ppm Ni and 44ppm to 728ppm Cu associated with elevated MgO values indicating the potential for magmatic nickel-copper sulphides. The anomalous values are all from drill holes within structurally dilational zones and proximal to fault/shear zones (Figure 15 and Table 1; Appendix 1).

The most anomalous interval from the program of 808ppm Ni, 728ppm Cu, 1110ppm Cr, 1.5% S and 13.5% MgO was returned from 45-46m in drill hole 19AFAC10344 at the Big Bullock 1 prospect (Figure 15, Table 1). This and samples from four other anomalous drill holes at the Big Bullock 1 prospect occur beneath highly conductive paleochannel overburden and are proximal to an interpreted fault and shear zone which converge towards the northeast of the tenement.

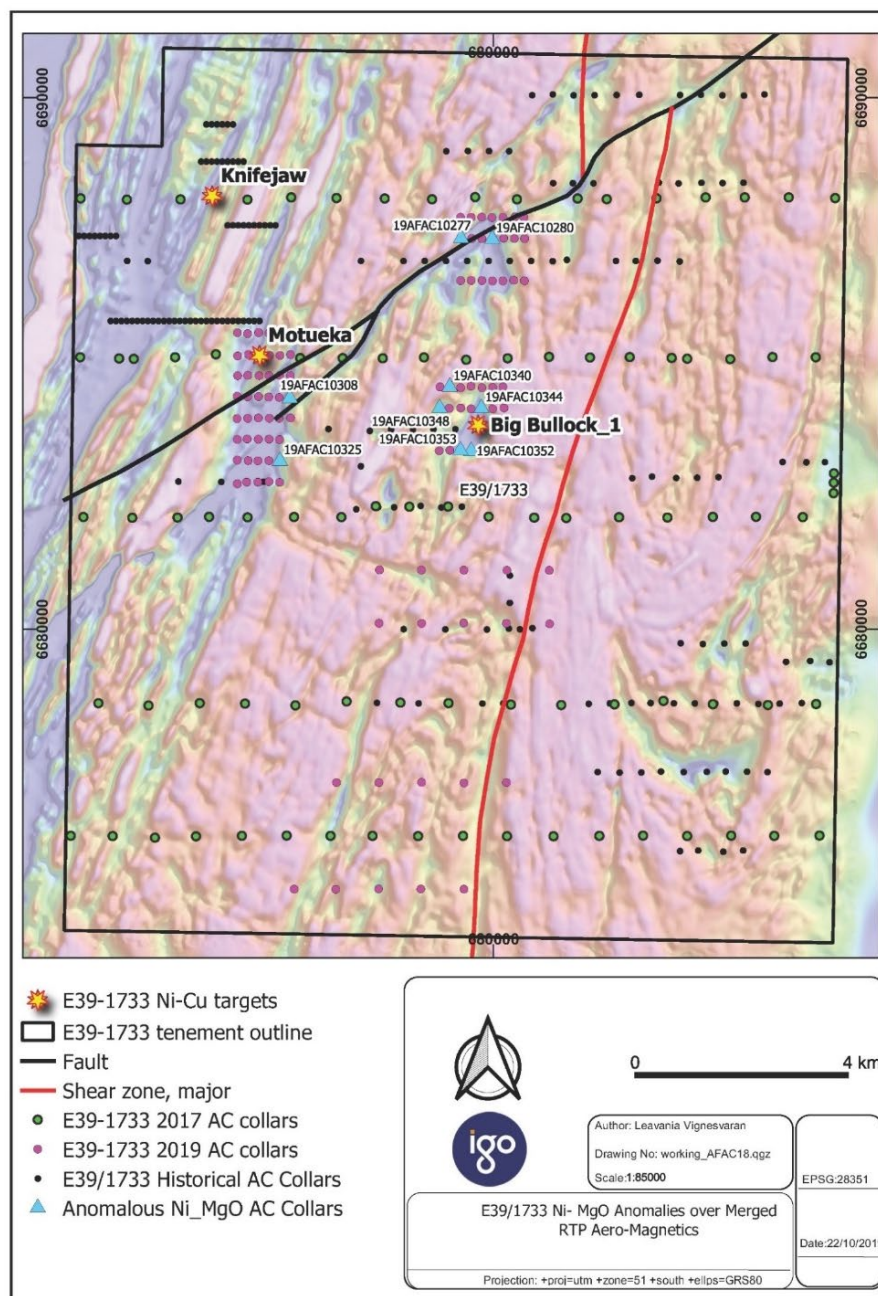
The Big Bullock 1 prospect will be followed up with MLEM surveys planned to test for basement conductors associated with the anomalous assay intervals.



**Table 1. Big Bullocks infill AC program anomalous assay results summary\*.**

Prospect	Hole ID	From (m)	To (m)	Ni (ppm)	Cu (ppm)	Description
unnamed	19AFAC10277	34	37	236	46	Mafic gneiss, near base of oxidation
	19AFAC10277	37	38	296	52	Mafic gneiss, fresh, sulphidic
Big Bullock 1	19AFAC10340	19	20	348	96	Intermediate gneiss, fresh
	19AFAC10344	42	45	280	180	Intermediate gneiss near base of oxidation
	<b>19AFAC10344</b>	<b>45</b>	<b>46</b>	<b>808</b>	<b>728</b>	Intermediate gneiss, fresh, <b>pyritic</b>
	19AFAC10348	42	46	492	84	Mafic gneiss, near base of oxidation
	19AFAC10348	46	47	540	102	Mafic gneiss, fresh, trace chalcopryrite
	19AFAC10352	54	57	312	58	Para gneiss, fresh, possible drill bit contamination
	19AFAC10352	57	58	260	46	Para gneiss, fresh
	19AFAC10353	34	35	306	46	Mafic gneiss, near base of oxidation
	19AFAC10353	35	36	342	44	Mafic gneiss, fresh
Motueka	19AFAC10308	20	21	220	48	mafic gneiss, fresh
	19AFAC10325	17	18	220	44	Mafic gneiss, fresh

\* refer Appendix 1 for further details

**Figure 15: Big Bullocks tenement E39/1733 prospects and recent AC drill results on image of RTP Magnetics (figure supplied by IGO).**

**Big Bang (Carawine 100%)**

During the period exploration licence E28/2759 named “Big Bang” was granted for a period of five years from 22 August 2019. Big Bang is located in the Central Fraser Range, where a number of Companies have recently announced nickel and gold discoveries including Thunderstorm – a paleochannel gold prospect identified by IGO (in joint venture with Rumble Resources (ASX:RTR)); and Galileo Mining’s (ASX:GAL) Lantern nickel prospect (Figure 13).

The Company plans to review historic exploration on Big Bang, including open file datasets to assess its prospectivity and identify targets for further work, including following known mineralisation trends from neighbouring tenements; e.g. IGO’s Thunderstorm prospect.

**COPORATE ACTIVITIES****\$3.0 Million Capital Raising**

During the quarter the Company announced it had received commitments to raise a total of \$3.0 million before costs through a two-tranche placement of approximately 21.4 million ordinary shares (“Shares”) at an issue price of 14 cents per Share (“the Placement”).

The first tranche (“Tranche 1”) of approximately 13.96 million Shares were issued on 26 September 2019, raising approximately \$1.95 million before costs. Tranche 1 was completed using Carawine’s existing placement capacity under ASX Listing Rules 7.1 (8,375,838 Shares) and 7.1A (5,583,793 Shares).

The second tranche (“Tranche 2”) of the Placement will be completed subject to obtaining shareholder approval at the Company’s annual general meeting to be held on 14 November 2019. Tranche 2 will result in the issue of approximately 7.47 million Shares to raise approximately \$1.05 million before costs. Subject to shareholder approval the Company expects that the Tranche 2 Shares will be issued on or about 22 November 2019.

For further details refer to the Company’s ASX announcements dated 20 & 26 September 2019.

**Junior Mineral Exploration Incentive (JMEI) Credits**

Carawine was successful in its application to participate in the Australian Government’s Junior Mineral Exploration Incentive (JMEI) scheme for the 2020 income year. The Company may allocate up to \$780,000 in exploration tax credits to eligible investors who participated in the Placement announced on 20 September 2019 and any other capital raising by the Company completed prior to 30 June 2020.

JMEI credits can be used as a refundable tax offset (or franking credit for corporate shareholders) in the relevant shareholder’s tax return for the 2020 income year. The actual amount of credit per share will be determined after 30 June 2020, and is dependent on the total amount of capital raised and the amount of eligible exploration expenditure incurred between 1 July 2019 and 30 June 2020, and the Company’s tax result for the 2020 income year.

**CASH POSITION**

As at 30 September 2019, the Company had cash reserves of approximately \$2.6 million.



**Mr David Boyd**  
Managing Director  
31 October, 2019

**Schedule 1: Interests in Mining Tenements at the end of the quarter as required under ASX Listing Rule 5.3.3.**

Project	Tenement	Holder	Interest	Location <sup>3</sup>	Status
Fraser Range	E 28/2759	Carawine Resources Ltd	100%	Western Australia	Live
Fraser Range JV	E 28/2374-I	Carawine Resources Ltd	49% <sup>1</sup>	Western Australia	Live
Fraser Range JV	E 28/2563	Carawine Resources Ltd	49% <sup>1</sup>	Western Australia	Live
Fraser Range JV	E 39/1733	Carawine Resources Ltd	49% <sup>1</sup>	Western Australia	Live
Fraser Range JV	E 69/3033	Carawine Resources Ltd	49% <sup>1</sup>	Western Australia	Live
Fraser Range JV	E 69/3052	Carawine Resources Ltd	49% <sup>1</sup>	Western Australia	Live
Jamieson	EL5523	Carawine Resources Ltd	100%	Victoria	Live
Jamieson	EL6622	Carawine Resources Ltd	100%	Victoria	Live
Oakover	E 45/4958	Carawine Resources Ltd	100%	Western Australia	Live
Oakover	E 45/4959	Carawine Resources Ltd	100%	Western Australia	Live
Oakover	E 45/5145	Carawine Resources Ltd	100%	Western Australia	Live
Oakover	E 45/5179	Carawine Resources Ltd	100%	Western Australia	Live
Oakover	E 45/5188	Carawine Resources Ltd	100%	Western Australia	Live
Oakover	E 46/1041-I	Carawine Resources Ltd	100%	Western Australia	Live
Oakover	E 46/1042-I	Carawine Resources Ltd	100%	Western Australia	Live
Oakover	E 46/1044-I	Carawine Resources Ltd	100%	Western Australia	Live
Oakover	E 46/1069-I	Carawine Resources Ltd	100%	Western Australia	Live
Oakover	E 46/1099-I	Carawine Resources Ltd	100%	Western Australia	Live
Oakover	E 46/1116-I	Carawine Resources Ltd	100%	Western Australia	Live
Oakover	E 46/1119-I	Carawine Resources Ltd	100%	Western Australia	Live
Oakover	E 46/1245	Carawine Resources Ltd	100%	Western Australia	Live
Oakover	E 46/1301	Carawine Resources Ltd	100%	Western Australia	Live
Paterson	E 45/4847	Carawine Resources Ltd	100%	Western Australia	Live
Paterson	E 45/4871	Carawine Resources Ltd	100%	Western Australia	Live
Paterson	E 45/4881	Carawine Resources Ltd	100%	Western Australia	Live
Paterson	E 45/4955	Carawine Resources Ltd	100%	Western Australia	Live
Paterson	E 45/5229	Carawine Resources Ltd	100%	Western Australia	Live
Paterson	E 45/5326	Carawine Resources Ltd	100%	Western Australia	Live
Oakover	E 46/1239	Carawine Resources Ltd	100%	Western Australia	Pending
Paterson	E 45/5504 <sup>1</sup>	Carawine Resources Ltd	100%	Western Australia	Pending
Paterson	E 45/5510 <sup>1,2</sup>	Carawine Resources Ltd	100%	Western Australia	Pending
Paterson	E 45/5514 <sup>1</sup>	Carawine Resources Ltd	100%	Western Australia	Pending
Paterson	E 45/5517 <sup>1</sup>	Carawine Resources Ltd	100%	Western Australia	Pending
Paterson	E 45/5520 <sup>1,2</sup>	Carawine Resources Ltd	100%	Western Australia	Pending
Paterson	E 45/5523 <sup>1</sup>	Carawine Resources Ltd	100%	Western Australia	Pending
Paterson	E 45/5526 <sup>1,2</sup>	Carawine Resources Ltd	100%	Western Australia	Pending
Paterson	E 45/5528 <sup>1,2</sup>	Carawine Resources Ltd	100%	Western Australia	Pending
Paterson	E 45/5534 <sup>3</sup>	Carawine Resources Ltd	100%	Western Australia	Pending
Paterson	E 45/5535 <sup>1</sup>	Carawine Resources Ltd	100%	Western Australia	Pending

Notes: Independence Group NL hold a 51% interest in the Fraser Range JV tenements and can earn up to 70% through the expenditure of \$5m by the end of 2021; <sup>1</sup>tenement application subject to ballot held subsequent to the end of the quarter, not first priority; <sup>2</sup> tenement application subject to ballot held subsequent to the end of the quarter, first priority determined (won); <sup>3</sup>tenement application subject to ballot.

Details of tenements and/or beneficial interests acquired/disposed of during the quarter are provided in Section 10 of the Company's accompanying Appendix 5B notice.



**COMPLIANCE STATEMENTS****REPORTING OF EXPLORATION RESULTS**

The information in this announcement that relates to Exploration Results is based on information compiled by Mr Michael Cawood, a Competent Person who is a Member of the Australasian Institute of Mining and Metallurgy (AusIMM). Mr Cawood holds shares and options in and is a full-time employee of Carawine Resources Ltd and has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activities being undertaken to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves' (the "JORC Code (2012)"). Mr Cawood consents to the inclusion in this announcement of the matters based on his information in the form and context in which it appears.

**PREVIOUSLY REPORTED INFORMATION**

This report includes information that relates to Exploration Results prepared and first disclosed under the JORC Code (2012). The information was extracted from the Company's previous ASX Announcements, with the Competent Person for the relevant original market announcement indicated in italics, as follows:

- Jamieson: "Copper-gold Porphyry Targets at Hill 800" 11 September 2019 (*M. Cawood*)
- Paterson: "Paterson Gravity Survey Prioritises Baton Targets" 27 August 2019 (*M. Cawood*)
- Hill 800: "New Gold Prospects Defined at Jamieson" 15 July 2019 (*M. Cawood*)
- Hill 800: "Gold Zone Extended With Latest Results From Hill 800" 27 May 2019 (*M. Cawood*)

Copies of these announcements are available from the ASX Announcements page of the Company's website: [www.carawine.com.au](http://www.carawine.com.au)

The Company confirms that it is not aware of any new information or data that materially affects the information included in the relevant market announcements. The Company confirms that the form and context in which the competent person's findings are presented have not been materially modified from the relevant original market announcements.

**FORWARD LOOKING AND CAUTIONARY STATEMENTS**

Some statements in this report regarding estimates or future events are forward-looking statements. They include indications of, and guidance on, future earnings, cash flow, costs and financial performance. Forward-looking statements include, but are not limited to, statements preceded by words such as "planned", "expected", "projected", "estimated", "may", "scheduled", "intends", "anticipates", "believes", "potential", "predict", "foresee", "proposed", "aim", "target", "opportunity", "could", "nominal", "conceptual" and similar expressions. Forward-looking statements, opinions and estimates included in this report are based on assumptions and contingencies which are subject to change without notice, as are statements about market and industry trends, which are based on interpretations of current market conditions. Forward-looking statements are provided as a general guide only and should not be relied on as a guarantee of future performance. Forward-looking statements may be affected by a range of variables that could cause actual results to differ from estimated results, and may cause the Company's actual performance and financial results in future periods to materially differ from any projections of future performance or results expressed or implied by such forward-looking statements. So there can be no assurance that actual outcomes will not materially differ from these forward-looking statements.

## Appendix 1: Fraser Range Joint Venture Exploration Results

**Table 2. Aries Prospect E28/2563 RC drill hole collar details**

Hole ID	Easting	Northing	RL	Hole Depth (m)	Dip	Azimuth (Magnetic)
19AFRC2051	516514	6496966	347	200	-57	151
19AFRC2053	515784	6496161	341	189	-60	152

**Table 3. Big Bullocks E39/1733 infill AC drill hole collar location details.**

MGA Zone 51 GDA94 coordinates, AHD RL.

Hole ID	Easting	Northing	RL	Hole Depth (m)	Dip	Azimuth (Magnetic)
19AFAC10270	680575	6687752	233.23	64	-90	0
19AFAC10271	680179	6687749	234.33	67	-90	0
19AFAC10272	679976	6687750	234.44	39	-90	0
19AFAC10273	680411	6687764	233.75	53	-90	0
19AFAC10274	679781	6687755	234.6	31	-90	0
19AFAC10275	679583	6687751	237.14	22	-90	0
19AFAC10276	679381	6687753	237.52	25	-90	0
19AFAC10277	679393	6687354	239.6	38	-90	0
19AFAC10278	679593	6687352	236.99	30	-90	0
19AFAC10279	679786	6687350	232.3	40	-90	0
19AFAC10280	679980	6687340	237.62	53	-90	0
19AFAC10281	680196	6687357	236.1	63	-90	0
19AFAC10282	680395	6687352	235.64	48	-90	0
19AFAC10283	680587	6687350	235.48	48	-90	0
19AFAC10284	680584	6686557	236.38	59	-90	0
19AFAC10285	680385	6686567	237.7	51	-90	0
19AFAC10286	680179	6686555	237.06	43	-90	0
19AFAC10287	679985	6686555	236.24	43	-90	0
19AFAC10288	679785	6686562	236.63	56	-90	0
19AFAC10289	679585	6686562	234.94	45	-90	0
19AFAC10290	679385	6686561	235.48	40	-90	0
19AFAC10291	676162	6685569	251.97	17	-90	0
19AFAC10292	675981	6685568	251.24	17	-90	0
19AFAC10293	675777	6685575	250.04	21	-90	0
19AFAC10294	675583	6685582	249.28	18	-90	0
19AFAC10295	675376	6685564	250.18	14	-90	0
19AFAC10296	675185	6685581	244.69	16	-90	0
19AFAC10297	675188	6685143	246.37	29	-90	0
19AFAC10298	675392	6685172	248.64	27	-90	0
19AFAC10299	675787	6685154	249.24	15	-90	0
19AFAC10300	675986	6685152	249.38	27	-90	0
19AFAC10301	676182	6685167	251.21	26	-90	0
19AFAC10302	676181	6684772	250.71	39	-90	0
19AFAC10303	675983	6684776	248.22	26	-90	0
19AFAC10304	675779	6684774	246.94	25	-90	0
19AFAC10305	675591	6684772	244.41	21	-90	0
19AFAC10306	675380	6684778	245.3	21	-90	0
19AFAC10307	675189	6684771	247.52	13	-90	0
19AFAC10308	676170	6684348	252.13	21	-90	0
19AFAC10309	675969	6684362	252.78	24	-90	0
19AFAC10310	675774	6684371	249.33	18	-90	0
19AFAC10311	675582	6684378	244.09	35	-90	0
19AFAC10312	675375	6684377	247.72	27	-90	0
19AFAC10313	675179	6684385	246.1	39	-90	0
19AFAC10314	676183	6683976	248.77	15	-90	0
19AFAC10315	675972	6683971	247.67	24	-90	0
19AFAC10316	675786	6683971	247.48	22	-90	0
19AFAC10317	675579	6683974	244.88	31	-90	0
19AFAC10318	675378	6683969	245.59	34	-90	0
19AFAC10319	675178	6683963	243.79	18	-90	0
19AFAC10320	675978	6683568	248.47	27	-90	0
19AFAC10321	675779	6683577	248.63	25	-90	0
19AFAC10322	675578	6683576	247.6	32	-90	0
19AFAC10323	675369	6683579	245.68	27	-90	0

Hole ID	Easting	Northing	RL	Hole Depth (m)	Dip	Azimuth (Magnetic)
19AFAC10324	675183	6683571	244.91	24	-90	0
19AFAC10325	675985	6683164	248.6	18	-90	0
19AFAC10326	675778	6683173	249.14	14	-90	0
19AFAC10327	675570	6683170	243.95	17	-90	0
19AFAC10328	675385	6683173	242.83	14	-90	0
19AFAC10329	675181	6683186	240.18	17	-90	0
19AFAC10330	675980	6682764	244.69	44	-90	0
19AFAC10331	675779	6682778	245.97	16	-90	0
19AFAC10332	675570	6682768	244.69	22	-90	0
19AFAC10333	675360	6682769	241.18	15	-90	0
19AFAC10334	675182	6682740	243.06	44	-90	0
19AFAC10335	680180	6684562	238.61	29	-90	0
19AFAC10336	679987	6684549	233.49	44	-90	0
19AFAC10337	679785	6684546	235.79	49	-90	0
19AFAC10338	679579	6684574	238.33	39	-90	0
19AFAC10339	679386	6684546	237.87	24	-90	0
19AFAC10340	679180	6684558	238.93	20	-90	0
19AFAC10341	678998	6684559	238.55	34	-90	0
19AFAC10342	680201	6684164	231.57	38	-90	0
19AFAC10343	679988	6684148	231.63	35	-90	0
19AFAC10344	679776	6684155	232.78	46	-90	0
19AFAC10345	679582	6684147	234.14	37	-90	0
19AFAC10346	679385	6684164	233.33	37	-90	0
19AFAC10347	679171	6684157	238.81	29	-90	0
19AFAC10348	678989	6684161	237.19	47	-90	0
19AFAC10349	680184	6683364	230.24	12	-90	0
19AFAC10350	679984	6683363	230.05	12	-90	0
19AFAC10351	679779	6683354	230.45	38	-90	0
19AFAC10352	679583	6683355	233.44	58	-90	0
19AFAC10353	679381	6683363	233.76	36	-90	0
19AFAC10354	679183	6683367	234.25	38	-90	0
19AFAC10355	678983	6683359	233.72	39	-90	0
19AFAC10356	681052	6681109	223.58	33	-90	0
19AFAC10357	680257	6681109	225.67	18	-90	0
19AFAC10358	679445	6681113	226.31	18	-90	0
19AFAC10359	678646	6681114	223.92	31	-90	0
19AFAC10360	677858	6681117	229.05	20	-90	0
19AFAC10361	681058	6680102	219.51	15	-90	0
19AFAC10362	680245	6680112	221.11	56	-90	0
19AFAC10363	679443	6680117	219.35	15	-90	0
19AFAC10364	678651	6680112	223.74	30	-90	0
19AFAC10365	677851	6680113	225.32	26	-90	0
19AFAC10366	679449	6675111	211.24	104	-90	0
19AFAC10367	678637	6675111	212.47	64	-90	0
19AFAC10368	677841	6675116	209.11	52	-90	0
19AFAC10369	677036	6675108	211.68	64	-90	0
19AFAC10370	676252	6675111	212.04	60	-90	0
19AFAC10371	680246	6677115	211.17	41	-90	0
19AFAC10372	679447	6677108	212.42	30	-90	0
19AFAC10373	678650	6677120	210.6	19	-90	0
19AFAC10374	677846	6677115	208.48	6	-90	0
19AFAC10375	677049	6677116	214.34	18	-90	0



**Table 4. Big Bullocks E39/1733 infill AC anomalous\* assays.**

Hole ID	From (m)	To (m)	Ni (ppm)	Cu (ppm)	Co (ppm)	Cr (ppm)	S (pct)	SiO2 (pct)	MgO (pct)	Pb (ppm)	Zn (ppm)	W (ppm)
19AFAC10277	34	37	236	46	72.7	306	0.026	50.65	11.5	14	95	0.5
19AFAC10277	37	38	296	52	72.7	319	0.094	48.30	13.1	12	75	0.5
19AFAC10308	20	21	220	48	57.8	1230	0.006	50.74	11.8	7	115	-0.5
19AFAC10325	17	18	220	44	57.8	989	0.006	50.05	11.6	12	115	0.5
19AFAC10340	19	20	348	96	59.9	1870	0.005	50.80	15.1	8	80	0.5
19AFAC10344	42	45	280	180	60.8	584	0.243	50.01	6.41	21	85	-0.5
<b>19AFAC10344</b>	<b>45</b>	<b>46</b>	<b>808</b>	<b>728</b>	<b>128</b>	<b>1110</b>	<b>1.510</b>	<b>50.10</b>	<b>13.5</b>	<b>8</b>	<b>60</b>	<b>0.5</b>
19AFAC10348	42	46	492	84	75.3	2040	0.027	47.96	10.1	13	115	-0.5
19AFAC10348	46	47	540	102	125	2160	0.094	49.31	12.5	9	75	1.0
19AFAC10352#	54	57	312	58	1540	400	0.116	50.25	12.5	3	60	8130
19AFAC10352	57	58	260	46	51.1	431	0.024	47.72	11.4	4	50	1.5
19AFAC10353	34	35	306	46	52.6	1600	0.008	51.64	10.6	2	110	-0.5
19AFAC10353	35	36	342	44	62.6	1640	0.057	50.32	13.1	2	80	-0.5

\* anomalous assay intervals are determined from samples at and near the end of hole using multi-element association criteria; # high Co and W values indicate potential for sample contamination from a broken drill bit, further investigation required to determine significance of this assay result

## Fraser Range Joint Venture Exploration Results JORC (2012) Table 1 Report

### Section 1 Sampling Techniques and Data

(Criteria in this section apply to all succeeding sections.)

Criteria	JORC Code explanation	Commentary
Sampling techniques	<ul style="list-style-type: none"> <li>Nature and quality of sampling (eg cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.</li> <li>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</li> <li>Aspects of the determination of mineralisation that are Material to the Public Report.</li> <li>In cases where 'industry standard' work has been done this would be relatively simple (eg 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse</li> </ul>	<ul style="list-style-type: none"> <li>The sampling techniques for air core drilling at the Big Bullocks tenement are detailed in the following subsections.</li> <li>No significant assay results are reported from reverse circulation drilling at the Aries prospect</li> </ul>

Criteria	JORC Code explanation	Commentary
	<i>gold that has inherent sampling problems. Unusual commodities or mineralisation types (eg submarine nodules) may warrant disclosure of detailed information.</i>	
Drilling techniques	<ul style="list-style-type: none"> <li>Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).</li> </ul>	<ul style="list-style-type: none"> <li>AC holes have been drilled by drill rigs owned and operated by Wallis Drilling Pty Ltd.</li> <li>AC Holes are NQ (47.6mm) diameter at a depth directed by IGO geologist and drilled using tungsten carbide air core bits.</li> <li>All holes are vertical.</li> </ul>
Drill sample recovery	<ul style="list-style-type: none"> <li>Method of recording and assessing core and chip sample recoveries and results assessed.</li> <li>Measures taken to maximise sample recovery and ensure representative nature of the samples.</li> <li>Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.</li> </ul>	<ul style="list-style-type: none"> <li>Sample recovery is not assessed and logged but noted if sample recovery is wet or dry to determine the potential sample smearing contamination.</li> <li>Down hole depths are checked against drill rod counts.</li> </ul>
Logging	<ul style="list-style-type: none"> <li>Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.</li> <li>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.</li> <li>The total length and percentage of the relevant intersections logged.</li> </ul>	<ul style="list-style-type: none"> <li>Qualitative logging of chip and core included lithology, mineralogy, mineralisation, structural, weathering, colour and other features of the samples.</li> <li>The total lengths of all drill holes have been logged.</li> <li>The logging is considered adequate to support downstream exploration studies and follow-up drilling with RC or diamond core.</li> </ul>
Sub-sampling techniques and sample preparation	<ul style="list-style-type: none"> <li>If core, whether cut or sawn and whether quarter, half or all core taken.</li> <li>If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.</li> <li>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</li> <li>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</li> <li>Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second-half sampling.</li> <li>Whether sample sizes are appropriate to the grain size of the material being sampled.</li> </ul>	<ul style="list-style-type: none"> <li>Sample piles from typically 4m long composites are spear sampled with ~ 3kg collected in pre-numbered calico bags.</li> <li>End of hole core plugs ranging from ~5-15cm are drilled where possible for bottom of hole analysis work.</li> <li>The nature of the drilling method means representation is indicative with sampling aimed at finding anomalous concentrations rather than absolute values for Mineral Resource Estimation (MRE) work.</li> <li>All drill samples were submitted to external contract analytical laboratory, Bureau Veritas – Perth laboratory (BV).</li> <li>At BV, the laboratory sample is oven dried (4-6 hours at 95 °C), coarse crushed in a jaw-crusher to 100% passing 10 mm, then the entire sample is pulverised in LM5 grinding robotic mills to a PSD of 85% passing 75 microns and collection of a 200g sub-sample.</li> <li>Quality control procedures involve insertion of certified reference materials, blanks, and collection of duplicates at the pulverisation stage.</li> <li>The results of duplicate sampling are consistent with satisfactory</li> </ul>

Criteria	JORC Code explanation	Commentary
Quality of assay data and laboratory tests	<ul style="list-style-type: none"> <li>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</li> <li>For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.</li> <li>Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.</li> </ul>	<p>sampling precision.</p> <ul style="list-style-type: none"> <li>No geophysical tools were used to determine any element concentrations.</li> <li>BV laboratory completed sample preparation checks for particle size distribution compliance as part of routine internal quality procedures to ensure the target particle size distribution of 85% passing 75 microns is achieved in the pulverisation stage.</li> <li>Field duplicates Certified Reference Material (CRMs) routinely inserted in the routine sample stream at a frequency of 1:20 samples.</li> <li>Blanks quality control samples are not used for exploration sampling.</li> <li>Laboratory quality control processes include the use of internal lab standards using CRMs and duplicates.</li> <li>CRMs used to monitor accuracy have expected values ranging from low to high grade, and the CRMs were inserted randomly into the routine sample stream to the laboratory.</li> <li>The results of the CRMs confirm that the laboratory sample assay values have good accuracy and results of blank assays indicate that any potential sample cross contamination has been minimised.</li> <li>Following sample preparation and milling, all core samples were analysed for a 63-element suite: <ul style="list-style-type: none"> <li>Inductively coupled plasma mass spectroscopy (ICP-MS) for Ag, As, Au, B, Be, Bi, Cd, Ce, Co, Cr, Cs, Ga, Hg, La, Mo, Nb, Pb, Pd, Pt, Rb, Sb, Sc, Se, Sr, Te, Th, U, W, Y and Zn.</li> <li>Fire assay digestion and mass spectroscopy (FA-MS) for Au, Pd and Pt.</li> <li>Laser ablation and ICP-MS (LA-ICP-MS) for Ag, As, Be, Bi, Cd, Ce, Co, Cr, Cs, Cu, Dy, Er, Eu, Ga, Gd, Ge, Hf, Ho, In, La, Lu, Mn, Mo, Nb, Nd, Pb, Pr, Rb, Sb, Sc, Se, Sm, Ta, Tb, Te, Th, Ti, Tm, U, Y, Yb and Zr</li> <li>Fusion digestion and X-ray fluorescence (XRF) analysis of powder fused with lithium borate flux including 5% NaNO<sub>3</sub> – Al, Ba, Ca, Fe, K, Mg, Na, Ni, P, S, Si, Sn, Sr, Ti, V, W and Zn</li> <li>The digestion methods can be considered near total for all elements</li> </ul> </li> <li>Loss on ignition (LOI) was determined by robotic thermo gravimetric analysis at 1000deg.C.</li> </ul>
Verification of sampling and assaying	<ul style="list-style-type: none"> <li>The verification of significant intersections by either independent or alternative company personnel.</li> <li>The use of twinned holes.</li> <li>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</li> </ul>	<ul style="list-style-type: none"> <li>Significant intersections are checked by senior IGO and Carawine geological personnel.</li> <li>No twinned holes were completed.</li> <li>The logging has been validated by an IGO on-site geologist and compiled onto the IGO acQuire SQL drill hole database by IGO's Geological</li> </ul>



Criteria	JORC Code explanation	Commentary
	<ul style="list-style-type: none"> <li>Discuss any adjustment to assay data.</li> </ul>	<p>Database Administrator.</p> <ul style="list-style-type: none"> <li>Assay data are imported directly from digital assay files from BV laboratory and are merged in the IGO acQuire SQL drill hole database by IGO's Geological Database Administrator.</li> <li>Data is backed up regularly in off-site secure servers.</li> <li>No geophysical or portable XRF results are used in exploration results reported.</li> <li>There have been no adjustments to the assay data.</li> <li></li> </ul>
Location of data points	<ul style="list-style-type: none"> <li>Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.</li> <li>Specification of the grid system used.</li> <li>Quality and adequacy of topographic control.</li> </ul>	<ul style="list-style-type: none"> <li>The hole collar locations of surface holes were recorded using a Garmin handheld GPS and averaging for 90s. Expected accuracy is <math>\pm 6m</math> for easting and northing.</li> <li>Down hole surveys were not completed for the vertical AC holes</li> <li>For RC holes downhole surveys were completed at a nominal 30m spacing using a Reflex EZ-Shot survey tool, an average of these surveys has been provided in Table 2</li> <li>The grid system is GDA94 Zone 51.</li> </ul>
Data spacing and distribution	<ul style="list-style-type: none"> <li>Data spacing for reporting of Exploration Results.</li> <li>Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.</li> <li>Whether sample compositing has been applied.</li> </ul>	<ul style="list-style-type: none"> <li>See figures in body of announcement for drill hole distribution</li> <li>Samples have been composited using length-weighted intervals for public reporting</li> </ul>
Orientation of data in relation to geological structure	<ul style="list-style-type: none"> <li>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</li> <li>If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.</li> </ul>	<ul style="list-style-type: none"> <li>Drilling from surface is designed to test the regolith and basement below cover – the orientation in relation to geological structure is not always known.</li> <li>True widths of the intervals are uncertain as the drilling is aimed at finding anomalies not for MRE purposes.</li> <li>The possibility of bias in relation to orientation of geological structure is currently unknown.</li> </ul>
Sample security	<ul style="list-style-type: none"> <li>The measures taken to ensure sample security.</li> </ul>	<ul style="list-style-type: none"> <li>The chain-of-sample custody is managed by the IGO on-site staff.</li> <li>Samples were stored at the IGO's currently active mine site Nova Operation and sampled in the field by IGO on-site staff and contractors, at the time of drilling.</li> <li>Samples were placed in pre-numbered calico bags and further secured in green plastic sample bags with cable ties. The samples are further secured in a bulk bag and delivered to the BV by contractor freight McMahon Burnette.</li> <li>A sample reconciliation advice is sent by BV laboratory to IGO's</li> </ul>

Criteria	JORC Code explanation	Commentary
		<p>Geological Database Administrator on receipt of the samples.</p> <ul style="list-style-type: none"> <li>• Sample preparation and analysis is completed at BV laboratory in Perth.</li> <li>• The risk of deliberate or accidental loss or contamination of samples is considered very low.</li> </ul>
Audits or reviews	<ul style="list-style-type: none"> <li>• The results of any audits or reviews of sampling techniques and data.</li> </ul>	<ul style="list-style-type: none"> <li>• No specific external audits or reviews have been undertaken.</li> </ul>

Section 2 Reporting of Exploration Results

(Criteria listed in the preceding section also apply to this section.)

Criteria	Statement	Commentary
Mineral tenement and land tenure status	<ul style="list-style-type: none"> <li>• Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.</li> <li>• The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.</li> </ul>	<ul style="list-style-type: none"> <li>• See figures in the body of this announcement for tenement locations.</li> <li>• E28/2563 was granted on 2 June 2017, is due to expire on 1 June 2022.</li> <li>• E39/1733 was granted on 19 November 2013, is due to expire on 18 November 2023.</li> <li>• Both tenements are subject to the Fraser Range Joint Venture (FRJV), IGO are managing and operating the FRJV and currently hold a 51% interest in the tenements. IGO can earn an additional 19% interest in the tenements by spending \$5 million by the end of 2021.</li> <li>• There are no known impediments to obtaining a licence to operate in the area.</li> </ul>
Exploration done by other parties	<ul style="list-style-type: none"> <li>• Acknowledgment and appraisal of exploration by other parties.</li> </ul>	<ul style="list-style-type: none"> <li>• There has been exploration work conducted on the tenements by various previous companies.</li> <li>• The exploration results reported in this announcement only relate to work completed by IGO.</li> </ul>
Geology	<ul style="list-style-type: none"> <li>• Deposit type, geological setting and style of mineralisation.</li> </ul>	<ul style="list-style-type: none"> <li>• The Aries prospect area is considered highly prospective for VHMS deposits, based on recently identified mineralisation. Similar mineralisation style is also identified in adjacent tenements.</li> <li>• The region is also considered to have the potential to host mafic or ultramafic intrusion related Ni-Cu-Co deposits based on the discovery of Nova-Bollinger Ni-Cu-Co deposit and volcanic massive sulphide deposit based on IGO's Andromeda exploration prospect.</li> <li>• Details of the geology of individual prospect areas are included in the body of this announcement.</li> </ul>
Drill hole Information	<ul style="list-style-type: none"> <li>• A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes: <ul style="list-style-type: none"> <li>○ easting and northing of the drill hole collar</li> <li>○ elevation or RL (Reduced Level – elevation above sea level)</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• See body of the announcement for details.</li> </ul>

Criteria	Statement	Commentary
	<ul style="list-style-type: none"> <li>in metres) of the drill hole collar</li> <li>dip and azimuth of the hole</li> <li>down hole length and interception depth</li> <li>hole length.</li> <li>If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.</li> </ul>	
Data aggregation methods	<ul style="list-style-type: none"> <li>In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g. cutting of high grades) and cut-off grades are usually Material and should be stated.</li> <li>Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.</li> <li>The assumptions used for any reporting of metal equivalent values should be clearly stated.</li> </ul>	<ul style="list-style-type: none"> <li>Criteria for reporting intervals are included with the relevant tables in the body of the announcement</li> <li>No capping or top-cutting of high grades were undertaken.</li> <li>Un-labelled holes on maps and diagrams are not considered to be of sufficient significance to warrant further work at this stage.</li> <li>Metal equivalent grades were not reported.</li> </ul>
Relationship between mineralisation widths and intercept lengths	<ul style="list-style-type: none"> <li>These relationships are particularly important in the reporting of Exploration Results.</li> <li>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</li> <li>If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (e.g. 'down hole length, true width not known').</li> </ul>	<ul style="list-style-type: none"> <li>Only downhole intersection widths are provided due to the nature of the drilling – any relationships between width and intercept lengths are likely coincidental.</li> </ul>
Diagrams	<ul style="list-style-type: none"> <li>Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.</li> </ul>	<ul style="list-style-type: none"> <li>Plan views, relevant summary assay tables and geological descriptions are included in the body of the announcement.</li> <li>Section views are not considered appropriate given the limited significance of the results reported to date (no significant assay results were reported).</li> </ul>
Balanced reporting	<ul style="list-style-type: none"> <li>Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.</li> </ul>	<ul style="list-style-type: none"> <li>All information considered material to the reader's understanding of the Exploration Results has been reported.</li> </ul>
Other substantive exploration data	<ul style="list-style-type: none"> <li>Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test</li> </ul>	<ul style="list-style-type: none"> <li>All information considered material to the reader's understanding of the Exploration Results has been reported.</li> </ul>



Criteria	Statement	Commentary
	<i>results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.</i>	
<i>Further work</i>	<ul style="list-style-type: none"> <li><i>The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).</i></li> <li><i>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</i></li> </ul>	<ul style="list-style-type: none"> <li>Further work is described in the body of the announcement.</li> </ul>