

31 January 2019

## QUARTERLY ACTIVITIES REPORT FOR THE PERIOD ENDED 31 DECEMBER 2018

### **HIGHLIGHTS:**

#### **Strickland Gold Project**

- **4,000m drilling programme completed at the T6 Prospect with gold intersections including:**
  - 4m @ 8.5g/t Au from surface; and
  - 3m @ 7.1g/t Au from 26m
- **Drilling at T2d Prospect completed in December 2018 – results are pending**
- **IP survey defines three discrete, high-priority anomalies at T1 & T2 Prospects**

#### **Plumridge Nickel Project**

- **Drilling has identified clusters of mafic/ultramafic intrusions with Ni and Cu sulphides**
- **Three high-priority EM targets planned to be drilled in 2Q 2019**

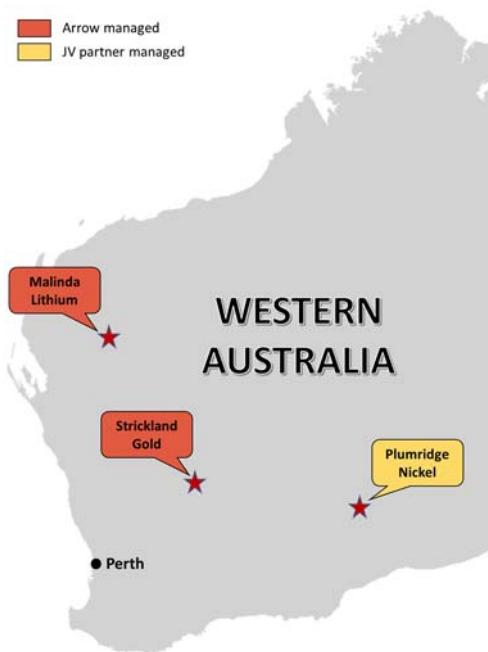
#### ***Capital Structure:***

ASX Code:	AMD
Share price (31/01/2019):	1.5¢
Shares on issue (AMD):	314.5m
Options on issue (AMDOA):	120.9m

#### ***Board and Management:***

Dr Frazer Tabart	Non-Executive Chairman
Nicholas Ong	Non-Executive Director
Steven Michael	Managing Director
Matthew Foy	Company Secretary

 Arrow managed  
 JV partner managed



### **DECEMBER QUARTER REVIEW**

#### ***Strickland Gold Project (AMD 100%)***

4,000m of drilling at the T6 Prospect completed along a 3.2km mineralised corridor. Drilling from the central and southern portion of the corridor has returned significant gold intersections, including 4m @ 8.5g/t and 3m @ 7.1g/t.

Drilling at the T2d Prospect was completed in late December, along a 3km gold-in-soil anomaly overlying a sheared granite. Results are pending.

An induced polarisation (IP) and resistivity survey at the T1a and T2b Prospects produced three discrete, high-priority anomalies within 150m of surface.

#### ***Plumridge Nickel Project (AMD 49%, IGO 51%)***

Independence Group NL drilled 368 aircore holes for 15,328m (average depth 42m) on a 3km x 800m grid to provide a detailed understanding of the underlying bedrock.

Drilling has identified mafic/ultramafic intrusions with cumulate textures. Petrographic analysis of bottom-of-hole aircore chips has confirmed magmatic sulphides, including pentlandite and chalcopyrite.

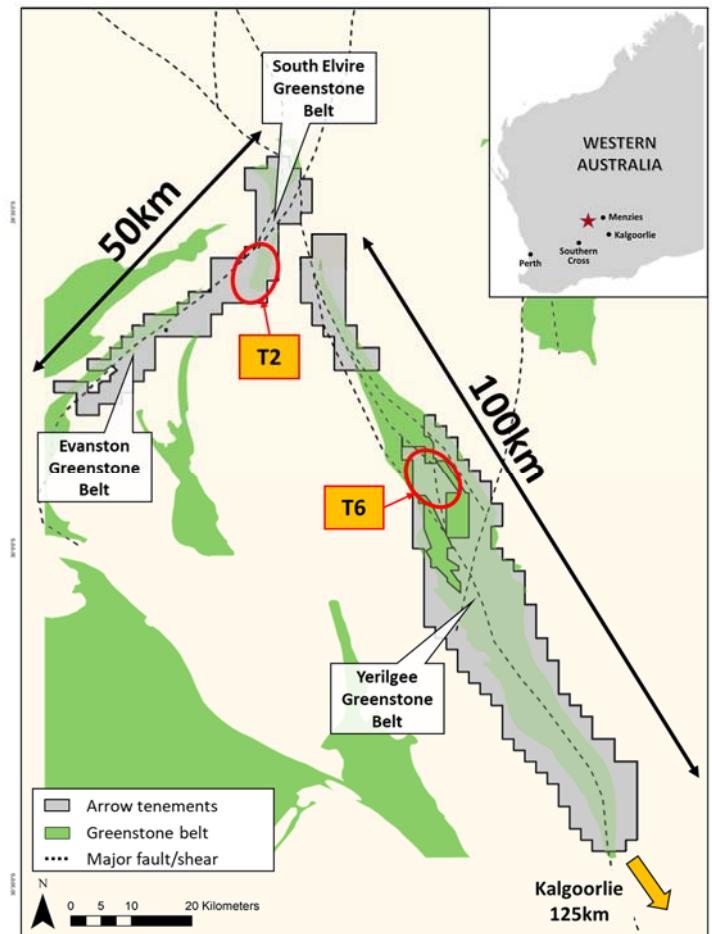
Ground EM surveys have defined three high-priority EM targets for RC drilling in 2Q 2019.

#### ***Corporate***

The Company remains in a very strong financial position with cash, receivables and investments in listed companies totalling \$3.4 million.

## STRICKLAND GOLD PROJECT (AMD 100%)

During the quarter, Arrow completed 12,000m of drilling at the T6 and T2 Prospects (**Figure 1**). The drill programme was designed to follow up areas of significant gold mineralisation from reconnaissance drilling in 2017 and 2018. Fence-lines were drilled across prospective mineralised structures defined by previous aircore drilling, close spaced soil sampling, high-resolution aeromagnetic data and prospect scale geological mapping.



**Figure 1: Strickland Gold Project location map**

In addition to the fence-line drilling programme, Arrow completed an IP and resistivity survey at the T1a and T2b Prospects, a project-wide ground gravity survey and detailed aeromagnetic surveys over the southern portion of the Yerilgee Greenstone Belt.

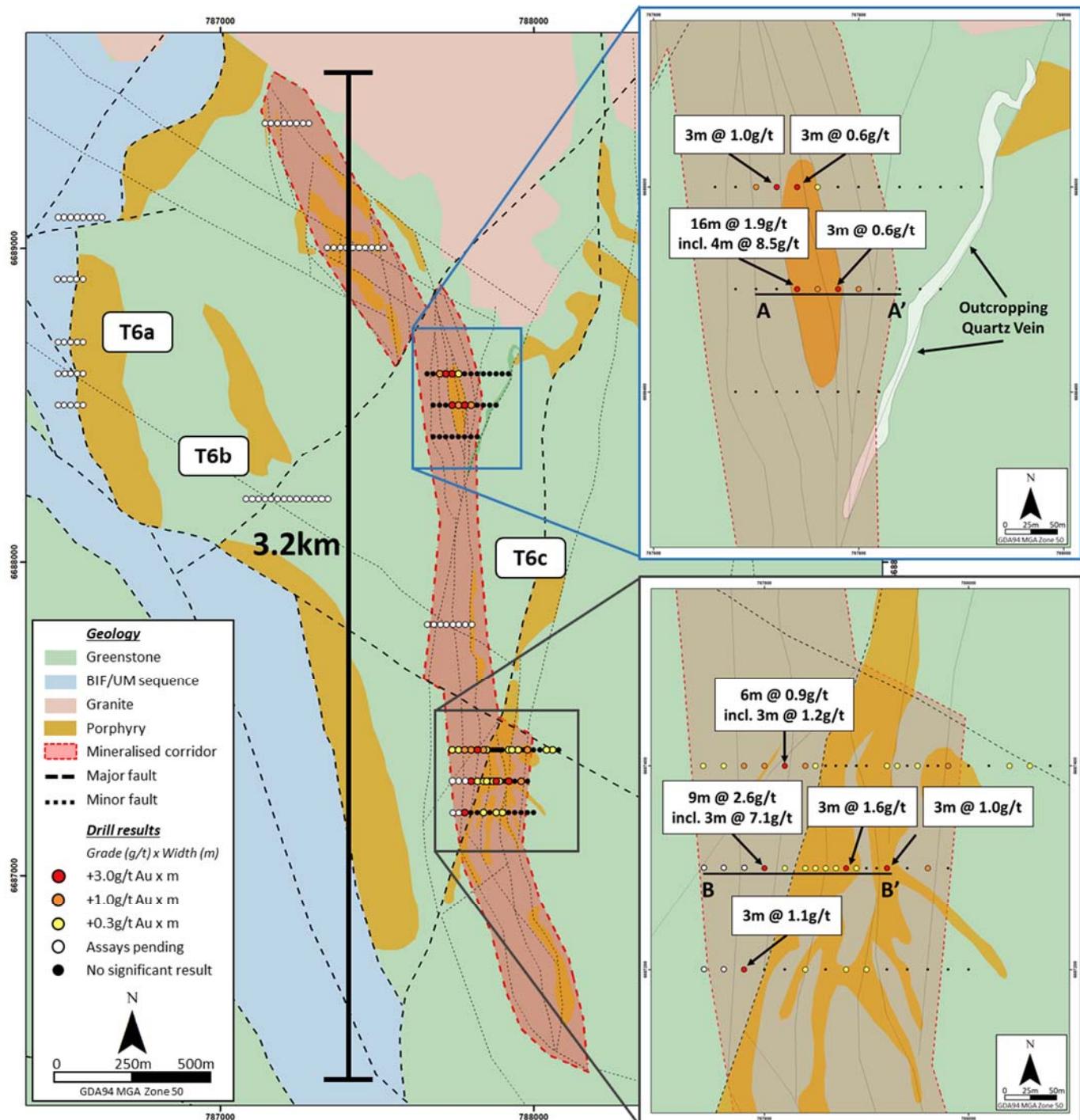
### **T6 Prospect**

A total of 174 holes for 8,500m were drilled at the T6 Prospect to test a number of gold targets defined by detailed soil sampling, previous wide spaced aircore drilling and lithostructural mapping. Drilling commenced over the T6c mineralised corridor, followed by fence lines over T6a, T6b and T6d (**Figure 2**). The majority of drilling targeted a 3.2km interpreted mineralised corridor at T6c, with the central and southern portion of the corridor returning significant gold intersections including:

- 16m @ 1.9g/t from 0m, including **4m @ 8.5g/t** from 0m (bedrock at surface) (STKAC0118);
- 9m @ 2.6g/t from 23m, including **3m @ 7.1g/t** from 26m (STKAC0154); and
- 3m @ 1.6g/t from 38m (STK0158).

Drilling at T6c has confirmed the mineralised corridor as a series of splay faults off a regionally significant shear, intruded by a number of mineralised porphyries. The structures and porphyries show locally intense alteration typical of orogenic gold mineralisation.

In addition, drilling intersected a number of porphyry intrusions and lamprophyres hosted by mafic and ultramafic volcanic rocks. Mineralisation occurs in late brittle-ductile structures in both the porphyry intrusions and the ultramafic rocks.



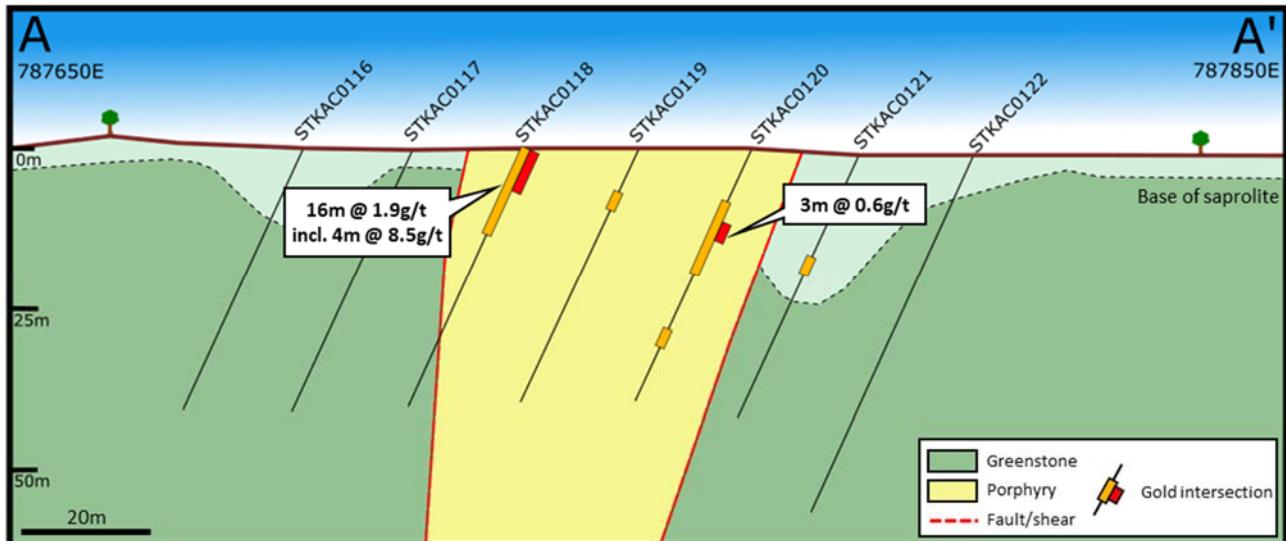
**Figure 2: T6 Camp with mineralised corridor and drill collar locations**

**Insets: Detailed drill results from southern and central portions of mineralised corridor**

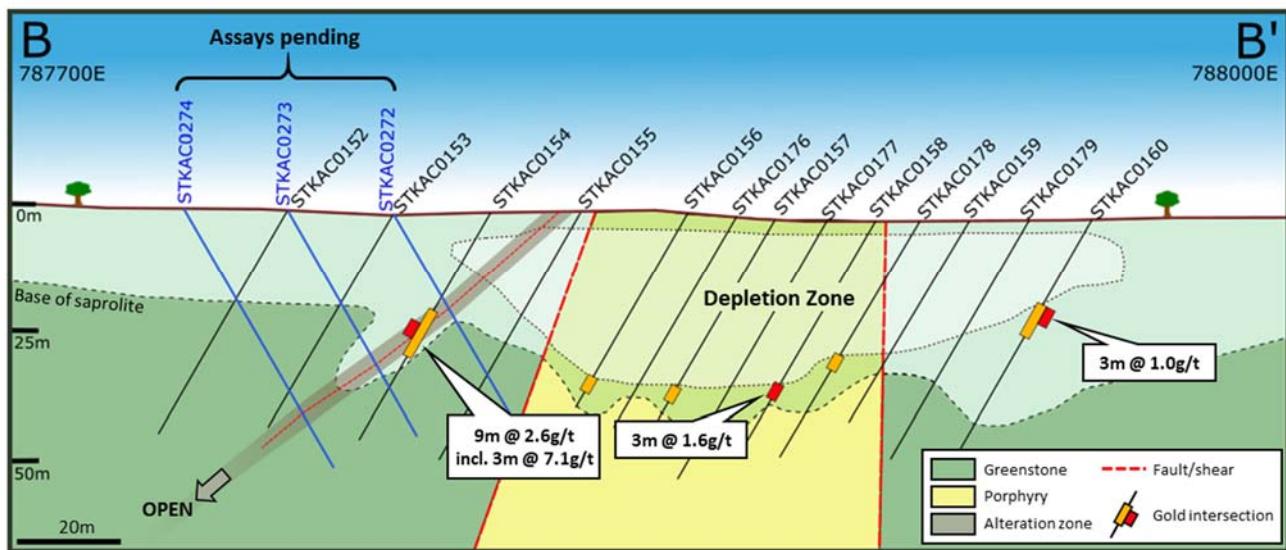
**Sections: see Figure 3 for section A-A' and Figure 4 for section B-B'**

Drill lines at T6c were drilled alternating between east and west angled holes as the general dip of lithology and regional structures were unknown. Drilling has confirmed that the predominant dip of volcanic stratigraphy and the north-south structures is to the west. However, the orientation of the brittle-ductile structures within the intrusions will be evaluated with further drilling.

The depth of weathering was highly variable, ranging from oxidized bedrock at surface (**Figure 3**) to deep saprolite development, including a thick gold-depleted clay zone (**Figure 4**). Where the depletion zone was intersected, infill holes were drilled to ensure drilling coverage of bedrock. Several holes intersected gold mineralisation below the depletion zone and will be followed up in subsequent drill programmes.



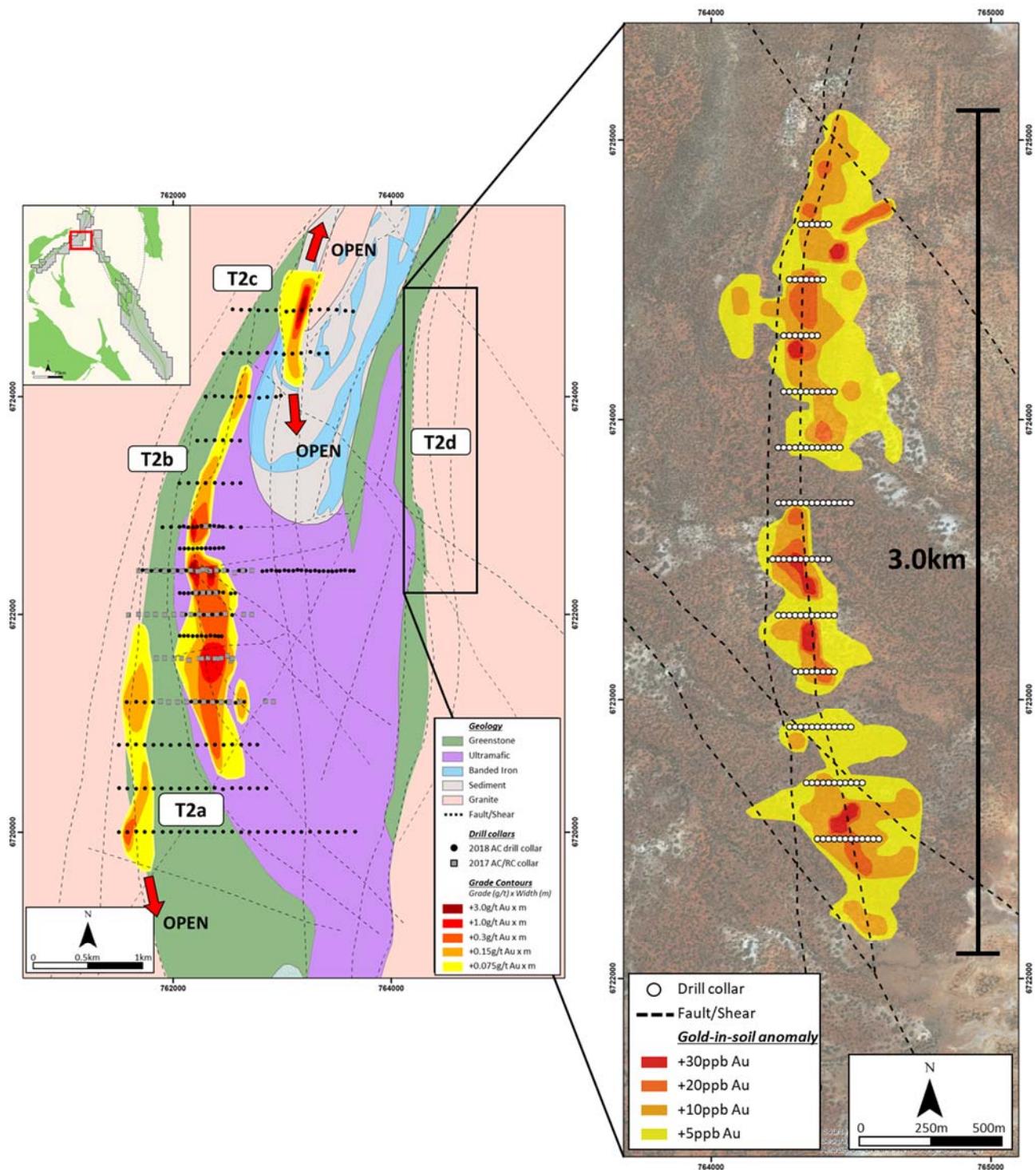
**Figure 3: Section A-A' from central portion of mineralised corridor showing high-grade gold associated with an interpreted ENE-trending quartz vein adjacent to a splay fault**



**Figure 4: Section B-B' from southern portion of mineralised corridor showing gold mineralisation within an altered ultramafic adjacent to a splay fault**

### T2 Prospect

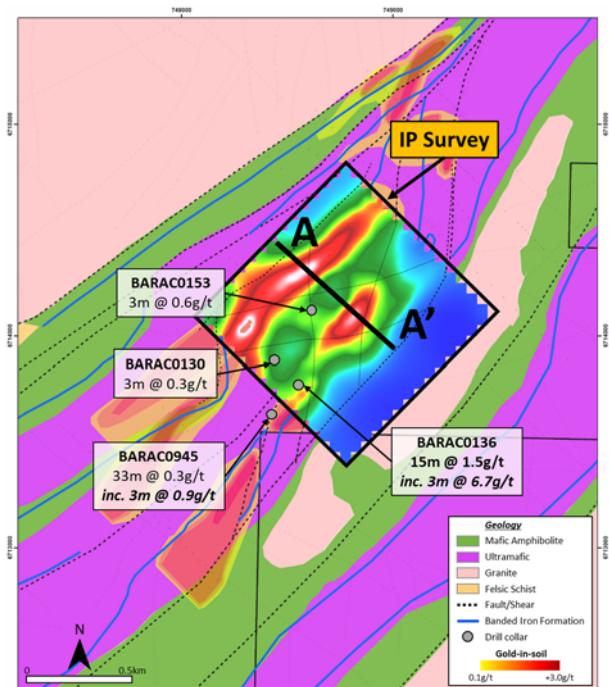
During the quarter, Arrow drilled 80 holes for 3,500m at the T2d Prospect, which is defined by a 3km long gold-in-soil anomaly directly overlying a sheared granite adjacent to the edge of the South Elvire Greenstone belt (**Figure 5**). The sheared granite has been mapped and contains rafts of mafic amphibolite and locally intense epidote alteration and quartz veining.



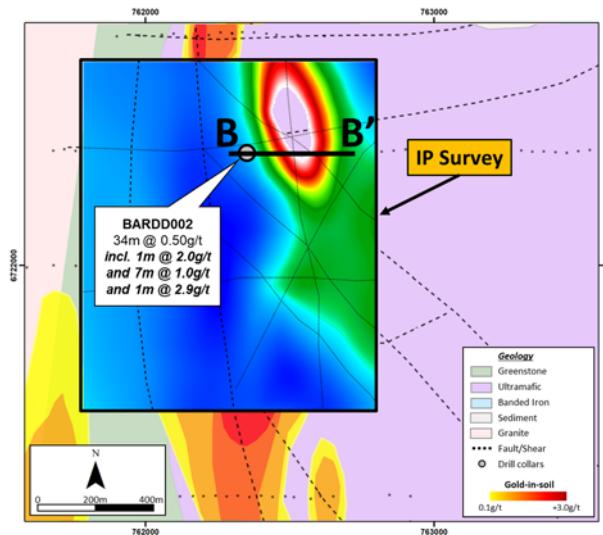
**Figure 5: Map of T2 Prospect with T2d (inset) showing gold-in-soil anomaly and planned drill collar locations**

#### IP Survey at T1 & T2

In early 2018, Arrow undertook a petrophysical study on diamond core from the T1a and T2b Prospects, which demonstrated a strong chargeability and resistivity contrast between mineralisation and barren lithologies. During the quarter, the Company completed ground IP and resistivity surveys covering an area of 1km x 1km at both prospects (**Figures 6 & 7**). Results from 3D inversion modelling produced three discrete, high priority anomalies within 150m of the surface. Arrow plans on drill-testing each target with angled RC holes in 1H 2019.



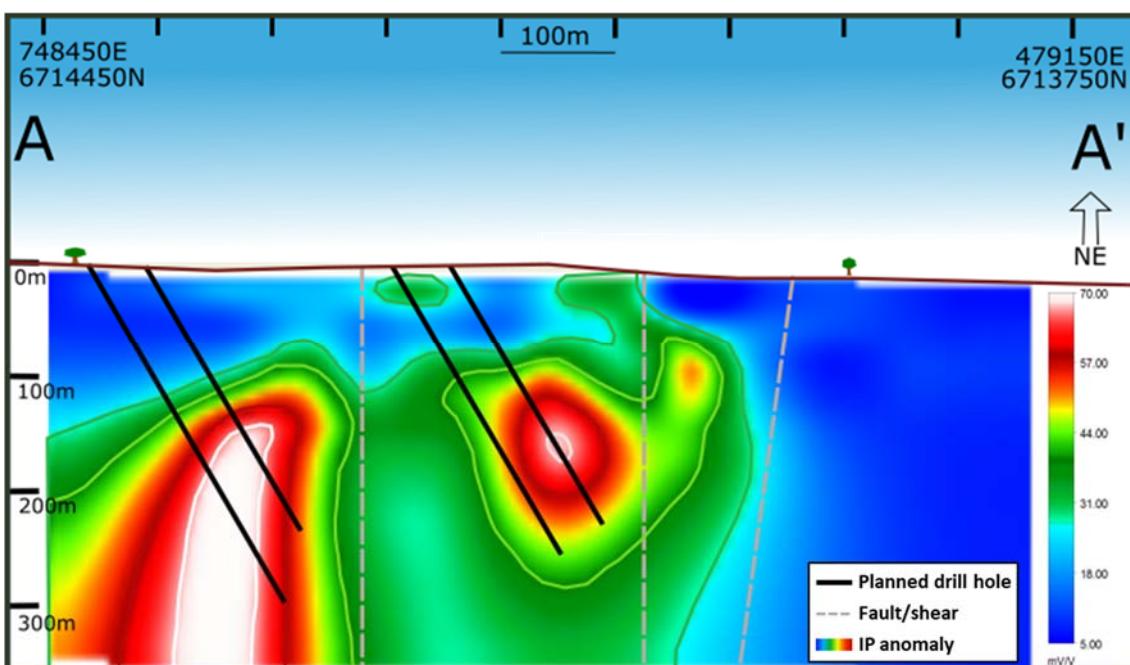
**Figure 6: T1a Prospect showing IP survey**  
(Section A-A' refer Figure 8)



**Figure 7: T2b Prospect showing IP survey**  
(Section B-B' refer Figure 9)

The T1a prospect is defined by a 2.8km x 600m gold-in-bedrock anomaly proximal to a major inflection between two major shears and associated cross-linking structures, within a thick package of ultramafic rocks, mafic amphibolite and banded iron formations. Known gold mineralisation in the region at Evanston and Copperhead is hosted in close proximity to banded iron formations.

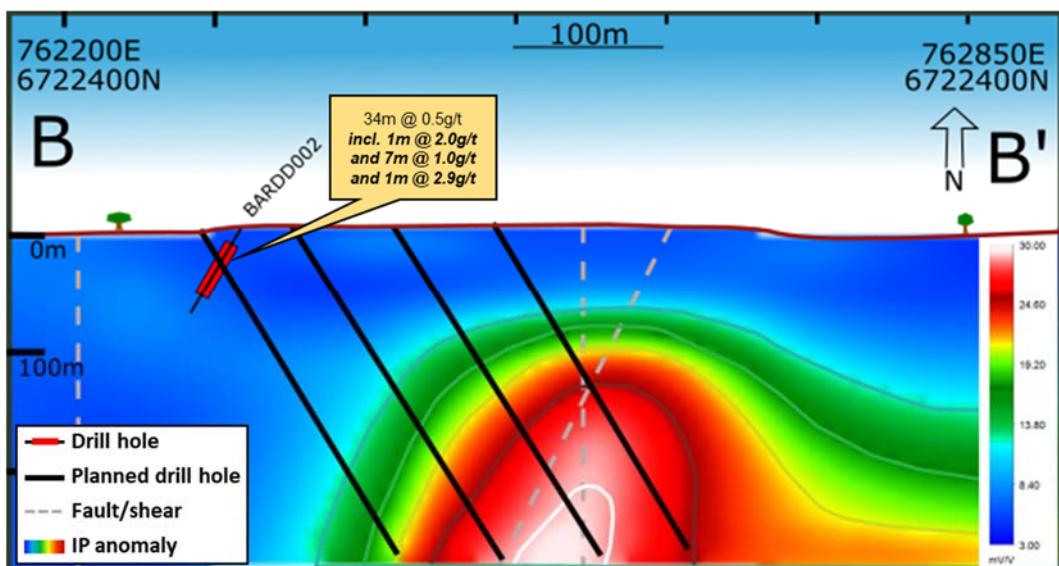
The IP and resistivity survey at T1a defined two high priority targets both situated at a bend in the regional structural trend with a significant cross-cutting structure. The IP targets are situated beneath gold anomalism intersected in shallow first-pass drilling, including 15m @ 1.5g/t and 3m @ 6.7g/t. Drilling to date at T1a has consisted of shallow aircore holes, with the deepest hole drilled to 38m. The two IP targets start at approximately 100m below surface (**Figure 8**).



**Figure 8: Cross section A-A' through T1a Prospect showing IP targets and planned drill holes**

The T2b Prospect is defined by a 3.5km x 300m gold-in-bedrock anomaly situated along a bend in a major shear within a package of mafic amphibolite and felsic intrusions. Previous drilling at the T2b Prospect has returned 48m @ 0.7g/t, including 21m @ 1.1g/t and 3m @ 2.3g/t from BARRC007. Arrow drilled a diamond hole (BARDD002), as a twin hole to BARRC007, which also returned 34m @ 0.5g/t, including 7m @ 1.0g/t and 1m @ 2.9g/t.

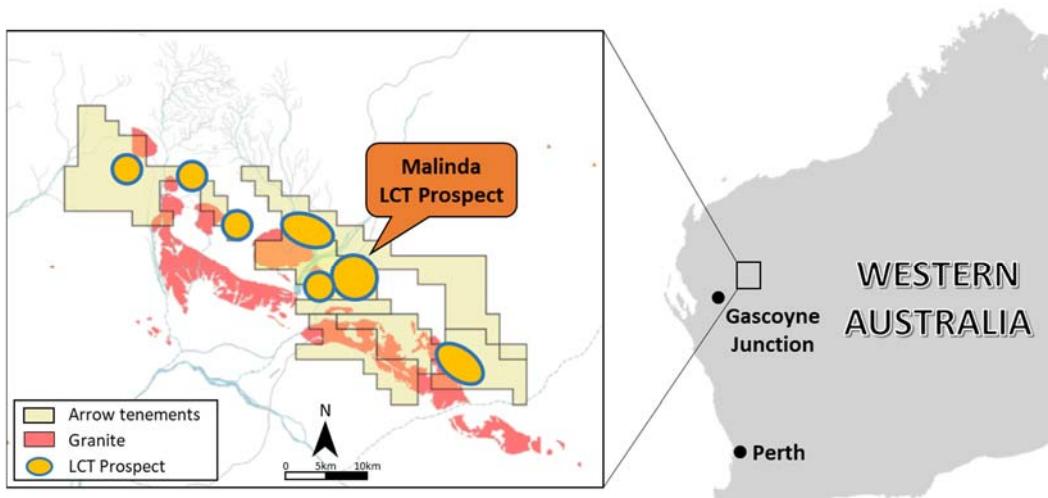
The IP and resistivity survey at T2b defined a single discrete high priority target (**Figure 9**). The target is situated on the footwall side of the felsic intrusion associated with the previously intersected gold mineralisation. The IP response of this anomaly is significantly stronger than the drill intercept (BARRC007 and BARDD002) which is currently interpreted to be minor mineralisation along a subordinate fault cutting through a potentially more significantly mineralised body. The IP target at the T2b Prospect starts approximately 75m below surface.



**Figure 9: Cross section B-B' through T2b Prospect showing the IP target and planned drill holes**

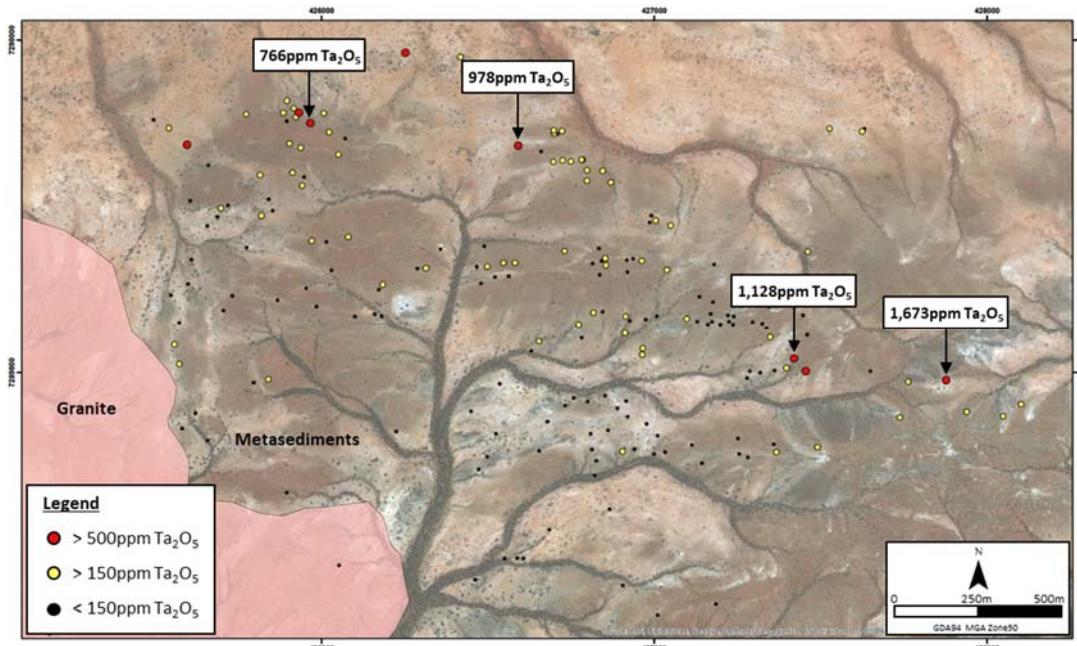
#### MALINDA LITHIUM-TANTALUM PROJECT (AMD 100%)

In early 2018, Arrow acquired ultra-high resolution aerial drone imagery and a digital terrain map over the Malinda Prospect (**Figure 10**). The survey allowed for detailed interpretation and geological mapping of the pegmatites at Malinda, leading to a systematic rock chip sampling programme to determine fractionation trends and confirm mineralisation in previously unidentified pegmatites.

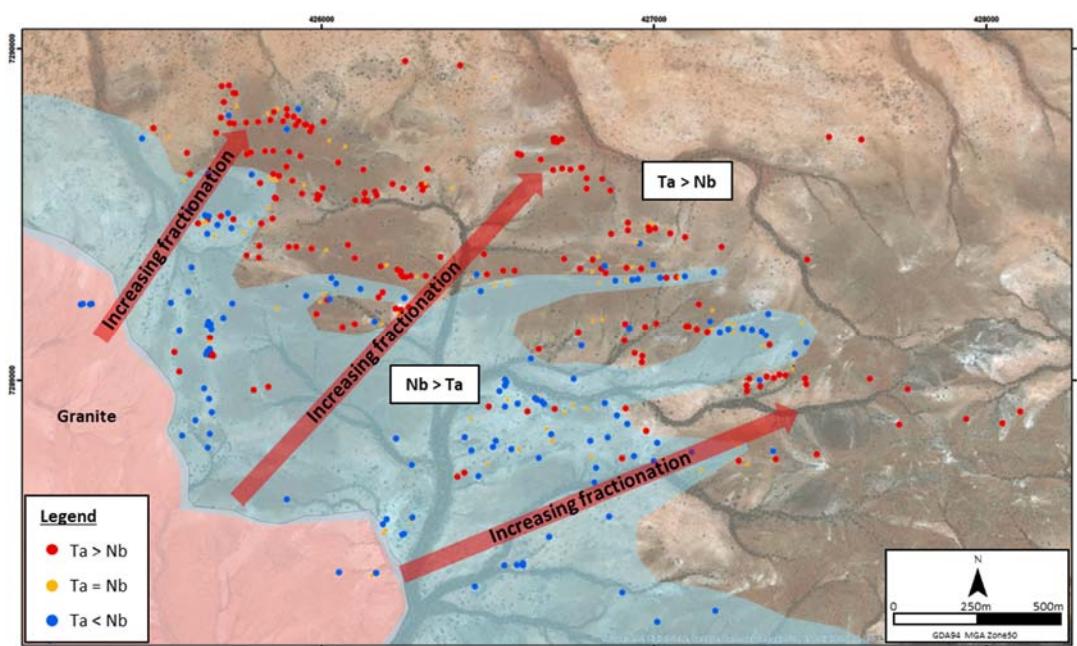


**Figure 10: Malinda Lithium Project location map**

A total of 217 rock chips were collected, predominantly to the north and east of previous exploration work. The rock chips returned significant tantalum grades, with 79 samples grading over 150ppm Ta<sub>2</sub>O<sub>5</sub>, including the highest value recorded at the Project to date of 1,673ppm Ta<sub>2</sub>O<sub>5</sub> (**Figure 11**).



A geochemical review of the rock chip data shows a strongly developed niobium/tantalum (Nb/Ta) fractionation trend from the south-west extending to the north and north-east, indicating the granite intrusion may continue at depth. In addition, mineralised pegmatites were identified under shallow cover to the north and north-east of the previously identified pegmatites (**Figure 12**).



The pegmatites at Malinda are more numerous than previously identified and appear to be strongly controlled by schistosity and faults developed in the host metasediments. Further, there appears to be a strong vertical component to the emplacement of the pegmatites as opposed to a purely lateral extension from the interpreted fertile granite in the west.

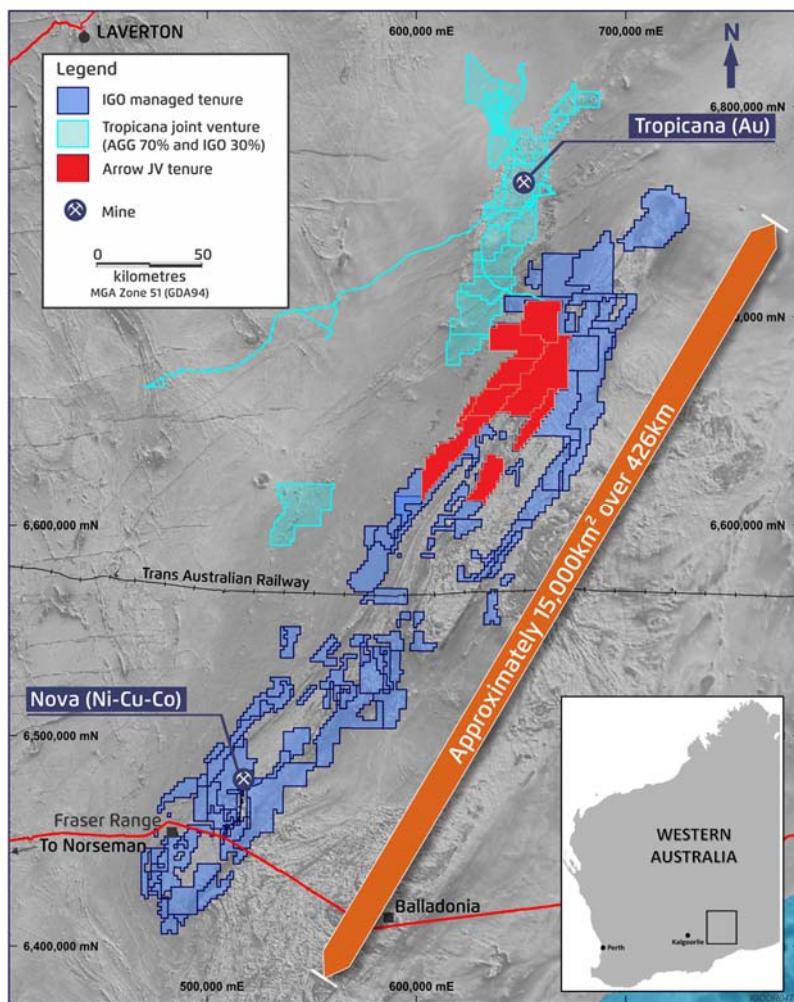
The majority of drilling completed to date at Malinda was located within the less fractionated zone closer to the granite, with the exception of the Tomahawk prospect which returned the most intense and consistent mineralisation in the first pass drilling programme. There remains potential for a significant extension of highly fractionated pegmatites under cover to the north and north-east of previous exploration work.

With Arrow's increased understanding of mineralisation at Malinda, the Company is planning on completing a project-wide geophysical survey in 1H 2019 to fingerprint the known mineralised intrusions at Malinda and to evaluate the remaining 580km<sup>2</sup> tenement package to identify additional mineralised pegmatite swarms for follow up geochemical sampling and mapping. This programme would consist of an airborne magnetics survey to better understand the structural controls on emplacement and overprint and a detailed hyperspectral survey.

### **PLUMRIDGE NICKEL PROJECT (AMD 49%, Independence Group NL 51%)**

Subsequent to the quarter, Arrow provided an update on exploration activities at the Plumridge Nickel Project (**Project**). The Project is subject to a joint venture between Independence Group NL (ASX: IGO) (**IGO**) (51%) and Arrow (49%). IGO can increase its interest in the Project to 90% by sole-funding \$5m of exploration expenditure by January 2022.

The Project consists of eight exploration licences covering 2,500km<sup>2</sup> in the northern Fraser Range Province, approximately 200km north of IGO's Nova Ni-Cu-Co operations and 120km south of the Tropicana gold operation (**Figure 13**).



**Figure 13: Plumridge Nickel Project location map**

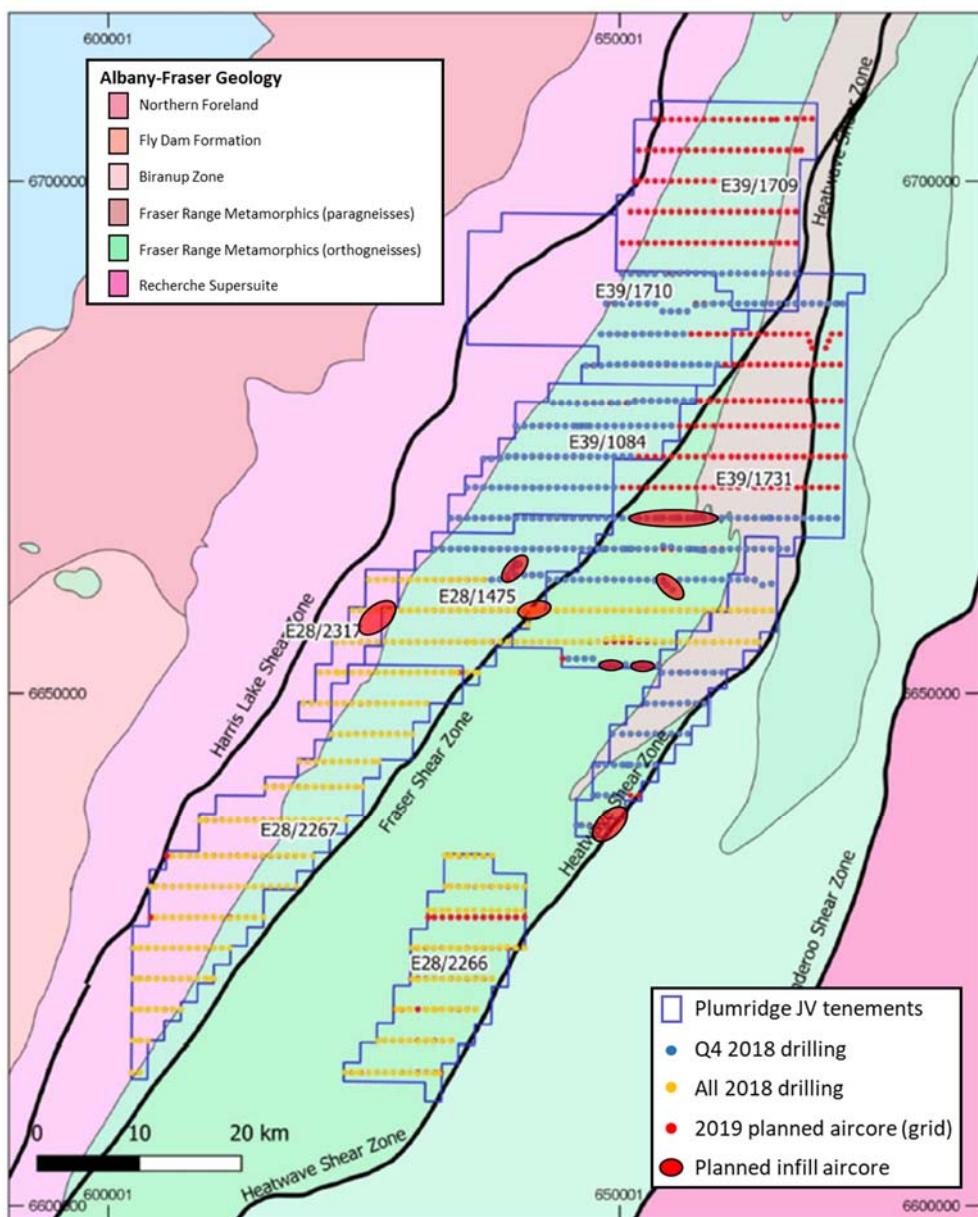
Arrow and IGO entered into the Plumridge JV in January 2018, and over the past 12 months IGO has undertaken significant exploration activities at the Project, including:

- Aircore drilling over 70% of the Project on a 3km x 800m grid;
- SPECTREM airborne EM survey over 20% of the Project area; and
- Ground moving loop EM (**MLEM**) over 15 target areas.

### Aircore Drilling Programme

During the December quarter, IGO drilled 368 aircore holes for 15,328m (average depth 42m) on a 3km x 800m grid. For 2018, IGO completed 768 aircore drill holes for 34,596m (average depth 45m), covering approximately 70% of the Project area. The Fraser Complex is overlain with an average of 40-50m of transported cover and the aim of the aircore drilling programme is to provide detailed geological and geochemical analysis of the underlying bedrock.

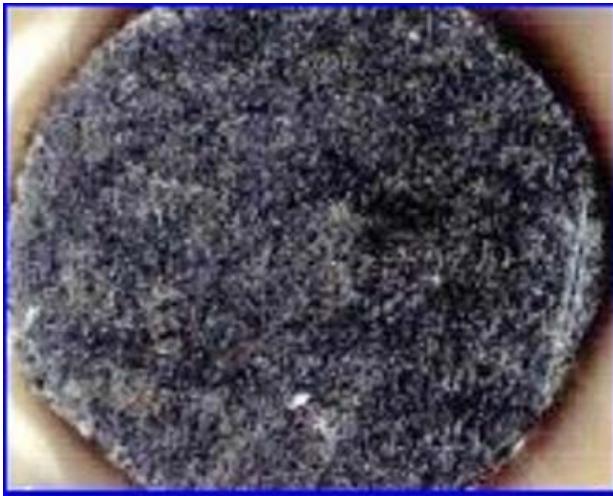
IGO plans to drill a further 231 holes, commencing in March 2019, to provide coverage of the entire Fraser Complex within the JV area (**Figure 14**).



**Figure 14: Plumridge Nickel Project showing completed (2018) and planned (2019) aircore drill collars**

Drilling to date has confirmed the Project is highly prospective for nickel-copper sulphides, with the identification of mafic/ultramafic intrusions with cumulate textures. Cumulate rocks have been observed in several bottom-of-hole samples, with a number of samples occurring in clusters. IGO is planning an infill aircore drilling programme around several mafic/ultramafic clusters in 2019 to further understand localised geology and geochemistry (**Figure 14**).

IGO has completed petrographic analysis of several bottom-of-hole samples from the aircore drilling programme. A sample from hole 18AFAC10738 has been reported as "a moderately mineral-banded, unfoliated medium-grained mafic granulite" with "scattered, tiny (<0.2mm) blebs of reorganised magmatic sulphide composed of pyrrhotite with flames of dominant chalcopyrite and sparse pentlandite" (**Figure 15**). In addition, magmatic sulphides, including chalcopyrite, have been observed in field samples using a hand lens (**Figure 16**).



**Figure 15:** Sample from 18AFAC10738 with magmatic sulphides pyrrhotite, chalcopyrite and pentlandite



**Figure 16:** Field photo from 18AFAC20677 showing chalcopyrite (Cpy) and pyrrhotite (Po)

### Airborne and Ground EM Surveys

In late-2017, Arrow's previous joint venture partner completed a HeliTEM airborne EM survey over the majority of the Project. Several EM targets were identified and a limited reverse circulation (**RC**) drill programme was completed in late-2017.

The HeliTEM data has been reprocessed by IGO and this information has been integrated with the aircore drilling results to identify 15 new targets. Fluxgate MLEM survey lines were completed on all targets in late-2018, with data currently being collated and interpreted. In addition, a review of the 2017 RC drilling programme, including downhole EM information, has been completed to assess the effectiveness of the drilling to adequately test the 2017 EM targets.

IGO has identified three EM targets (**Figure 17**) for high-priority RC drill testing in 2Q 2019. The three targets are:

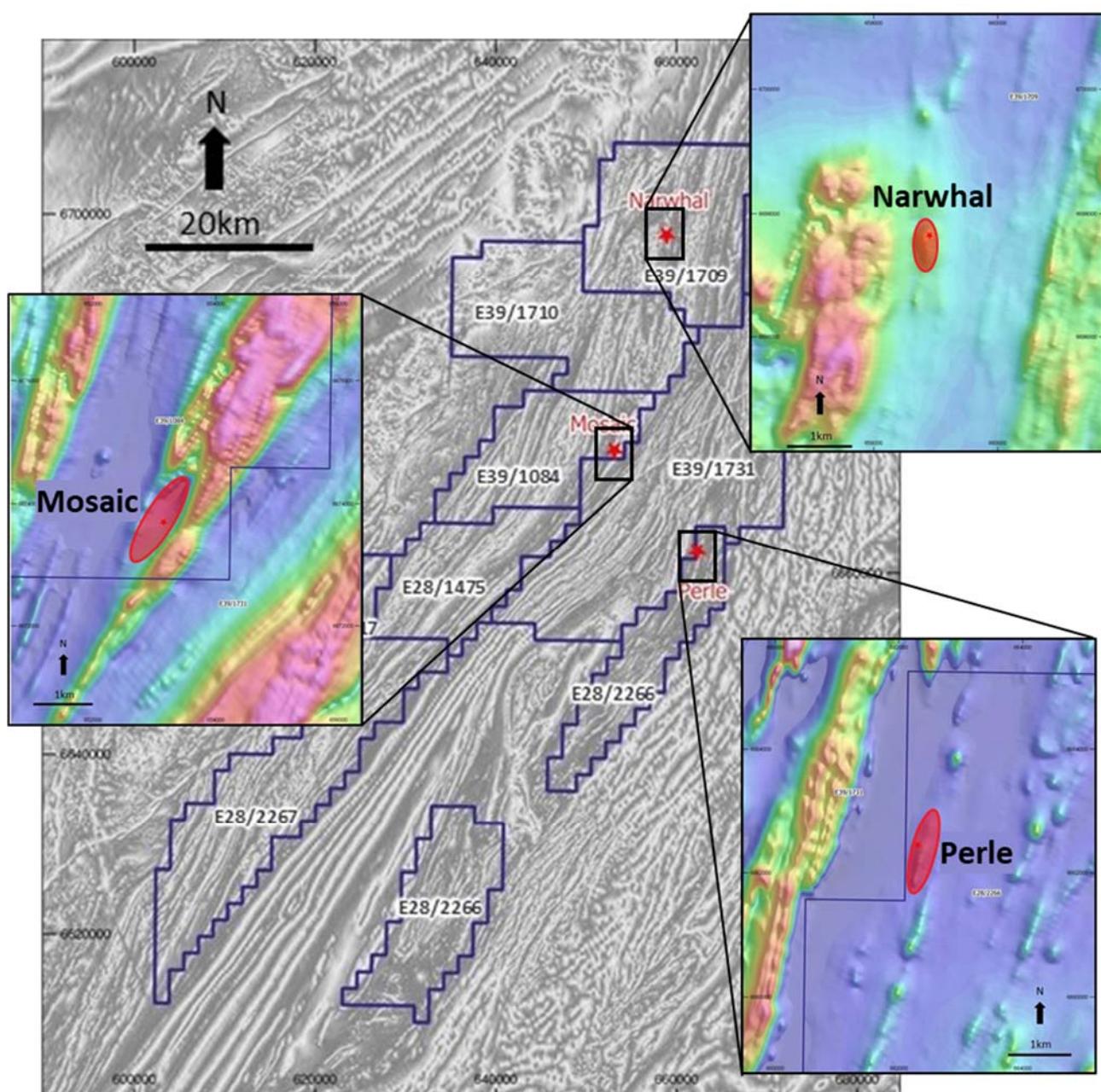
- Mosaic
  - Identified by previous HeliTEM survey
  - Ground EM completed in November 2018
  - No proximal aircore completed in 2018 – planned for 1Q 2019
  - EM plate is within a magnetic 'eye' feature with a coincident gravity anomaly
  - Dimensions: 700m x 200m
  - Depth to top: 220m

➤ Narwhal

- Identified by previous HeliTEM survey
- 2017 RC drilling parallel to target did not test the highly conductive anomaly
- Downhole EM confirms untested conductor
- Dimensions: 145m x 90m
- Depth to top: 75m

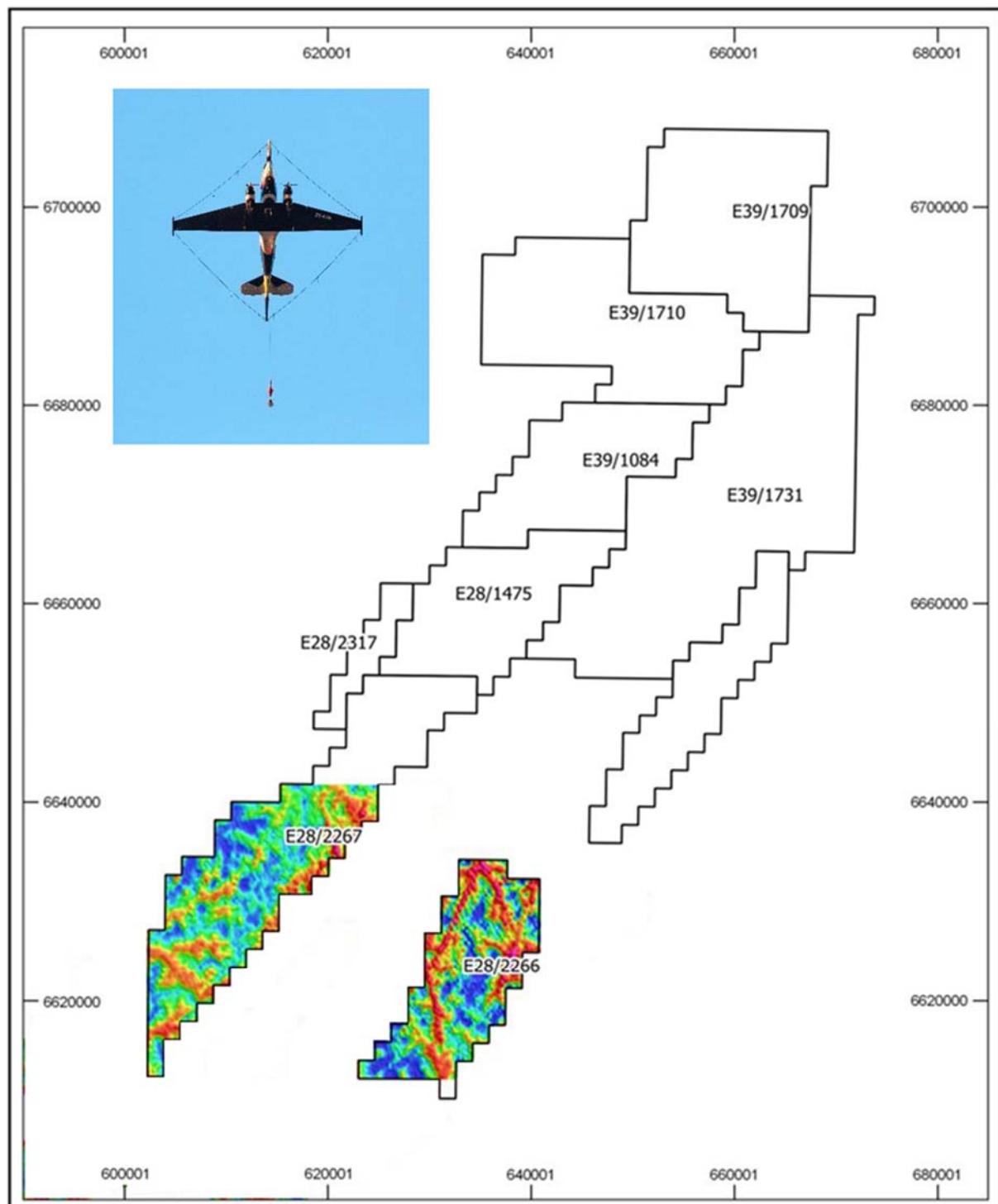
➤ Perle

- Identified by previous HeliTEM survey
- 2017 RC drilling did not intersect and adequately test the conductor
- Dimensions: 335m x 176m
- Depth to top: 170m



**Figure 17: EM targets over regional magnetics – Mosaic, Narwhal and Perle**

In mid-2018, IGO commenced an airborne EM survey using SPECTREM (fixed wing time domain EM) to identify basement conductors and map cover thickness. Approximately 20% of the Project area has been flown, with the survey to resume in March 2019 (**Figure 18**). IGO is planning to fly SPECTREM over the remaining Project area in the coming months. Significant conductors will then be followed up with ground EM surveys.



**Figure 18: Project map showing SPECTREM survey completed over southern 20% of tenements**

## CORPORATE AND FINANCIAL

### Financial Position

Arrow remains in a strong financial position with \$3.4 million in cash, receivables and listed investments. As at the end of the quarter, Arrow held cash of \$2.3 million and investments in Pacton Gold Inc. (TSX-V: PAC) with a market value of \$1.1 million.

### Appointment of Chairman

Subsequent to the quarter Arrow advised that Dr Frazer Tabeart had been appointed Non-Executive Chairman of the Company. Dr Tabeart has been a Director of Arrow since 2014 and has extensive experience in international exploration and mining projects.

Dr Tabeart is considered an Independent Chairman under ASX Corporate Governance Principle 2.5.

### Capital Structure

The current capital structure of Arrow is set out below:

#### Quoted Securities

Ordinary shares on issue (ASX:AMD)	314,540,609
Quoted options exercisable at 10.0¢ on or before 31/12/2019 (ASX:AMDOA)	120,872,133

#### Unquoted Securities

Unquoted options exercisable at 17.5¢ on or before 30/6/2019	8,571,408
Unquoted options exercisable at 7.0¢ on or before 31/12/2019	13,146,469

For further information visit [www.arrowminerals.com.au](http://www.arrowminerals.com.au) or contact:

### Arrow Minerals Limited

Mr Steven Michael

*Managing Director*

E: [info@arrowminerals.com.au](mailto:info@arrowminerals.com.au)

### Competent Persons Statement

The information in this report that relates to Exploration Results is based on information compiled by Dr Frazer Tabeart who is a Member of the Australian Institute of Geoscientists. Dr Tabeart is a Director of the Company and has more than five years' experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2012 Edition of the "Australasian Code for Reporting of Exploration Results, Minerals Resources and Ore Reserves". Dr Tabeart consents to the inclusion in the report of the matters based on his information in the form and context in which it appears. Additionally, Dr Tabeart confirms that the entity is not aware of any new information or data that materially affects the information contained in the ASX releases referred to in this report.

**Appendix A – Schedule of Tenements as at 31 December 2018**

Tenement ID	Status	Interest at beginning of quarter	Interest acquired or disposed	Interest at end of quarter
<b>Strickland Gold Project</b>				
E16/495	Granted	100%	0%	100%
E16/498	Application	0%	0%	0%
E30/503	Application	0%	0%	0%
E30/488	Granted	100%	0%	100%
E30/493	Granted	100%	0%	100%
E30/494	Granted	100%	0%	100%
E77/2403	Granted	100%	0%	100%
E77/2416	Granted	100%	0%	100%
E77/2432	Granted	100%	0%	100%
E77/2570	Application	0%	0%	0%
<b>Malinda Lithium Project</b>				
E09/1618	Granted	35%	0%	35%
E09/2169	Granted	100%	0%	100%
E09/2170	Granted	100%	0%	100%
E09/2197	Granted	100%	0%	100%
E09/2198	Granted	100%	0%	100%
E09/2283	Application	0%	0%	0%
<b>Plumridge Nickel Project</b>				
E28/1475	Granted	49%	0%	49%
E28/2266	Granted	49%	0%	49%
E28/2267	Granted	49%	0%	49%
E28/2317	Granted	49%	0%	49%
E39/1084	Granted	49%	0%	49%
E39/1709	Granted	49%	0%	49%
E39/1710	Granted	49%	0%	49%
E39/1731	Granted	49%	0%	49%
E39/2088	Application	0%	0%	0%