

# ASX announcement

30 June 2020

## Commencement of Higginsville Drilling Program

Argonaut Resources NL (ASX: ARE) (*Argonaut* or the *Company*) is pleased to announce the commencement of drilling at the Island and Birties gold prospects, near Higginsville, WA.

### Highlights

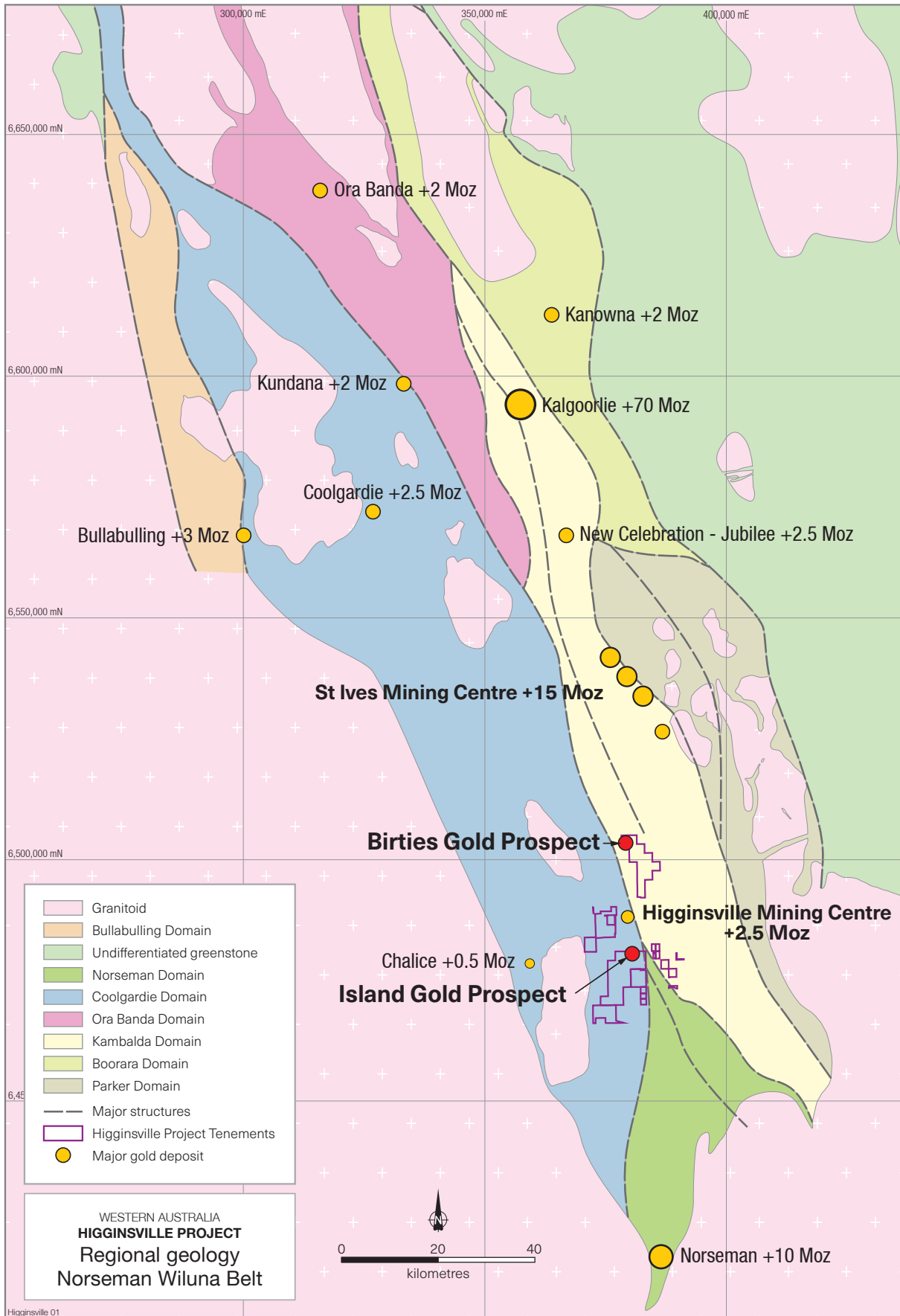
- Argonaut has commenced a program of RC drilling targeting untested gold anomalies at the Island gold prospect and the Birties gold prospect at its Higginsville project, WA (Figure 1).
- Argonaut holds a 51% interest in a package of tenements around Higginsville and can earn up to 80% under an earn-in joint venture.

### Island Gold Prospect

- The Island gold prospect is defined by a 1,200m by 400m gold geochemical anomaly and surface rock-chip samples (Figure 3).
- The anomaly sits over a major structural intersection that may have been a conduit for gold mineralising fluids (Figure 2).
- The Island Gold target has been independently confirmed by SensOre Ltd using its proprietary mineral exploration AI (artificial intelligence).

### Birties Gold Prospect

- The drill target is defined by a broad gold anomaly, which is over 1km in diameter and is open to the south.
- The anomaly features a 500m by 100m, +20ppb gold peak (Figure 4).



**Figure 1** Higginsville tenement location, regional geology, major gold occurrences and prospect locations.

# Island Gold Target

## Setting

- The Island gold prospect is located 9km south of the Higginsville Mining Camp (+2.5MOz) which sits between the St Ives (+15MOz) and Norseman (+10MOz) gold mining districts in Western Australia (Figure 1).
- The Island gold prospect is defined by a 1,200m by 400m gold geochemical anomaly and surface rock-chip samples (Figure 2).
- The anomaly sits over a major structural intersection that may have been a conduit for gold mineralising fluids.
- The Island Gold target has been independently confirmed by SensOre Ltd using its proprietary mineral exploration AI.
- The Island prospect benefits from not having been previously drilled. Island prospect sits outside of neighbouring tenements which were comprehensively drilled in the 1990s (Figure 2).

## Island Target Confirmed by Exploration AI

SensOre Ltd is an Australian minerals targeting company with a proprietary artificial intelligence, machine learning system. SensOre has applied its AI system to Argonaut's Higginsville tenements and identified the Island Gold Prospect as a target with attractive properties in terms of:

- gold endowment probabilities;
- gold grade probabilities;
- depth to deposit probabilities; and
- a low exploration maturity ranking.

## Geochemistry Anomaly

The Island prospect is defined by:

- a 1,200m by 400m >10ppb gold geochemical anomaly from auger drilling samples; and
- surface rock-chip samples from depleted, surface outcrop up to 0.34g/t gold. (Figure 3).

## Structurally Controlled

The anomaly sits directly over a major north-westerly orientated fault which terminates the north-south trending greenstone package that hosts the primary Higginsville gold deposits such as Trident, Poseiden South, Fairplay and Corona (Figure 3).

These Higginsville deposits sit on a north-south mineralisation trend that aligns with the Island prospect to the south (Figure 3).

Island is 4km to the south-west of the south-west orientated Challenge palaeochannel open pit, and directly south of the north-south trending Mitchell palaeochannel open pit (Figure 2).

## Undrilled Anomaly

The Island prospect is located less than 1km south of an historic tenement boundary, north of which deposits and anomalies have been comprehensively drilled. The Island anomaly sits in between two historic drill traverses that are spaced 800m apart. Holes along these traverses failed to intercept the anomaly (Figure 3).

Island prospect benefits from this absence of historic drilling compared to other gold targets which often have many generations of historic drilling, limiting the potential for future discoveries.

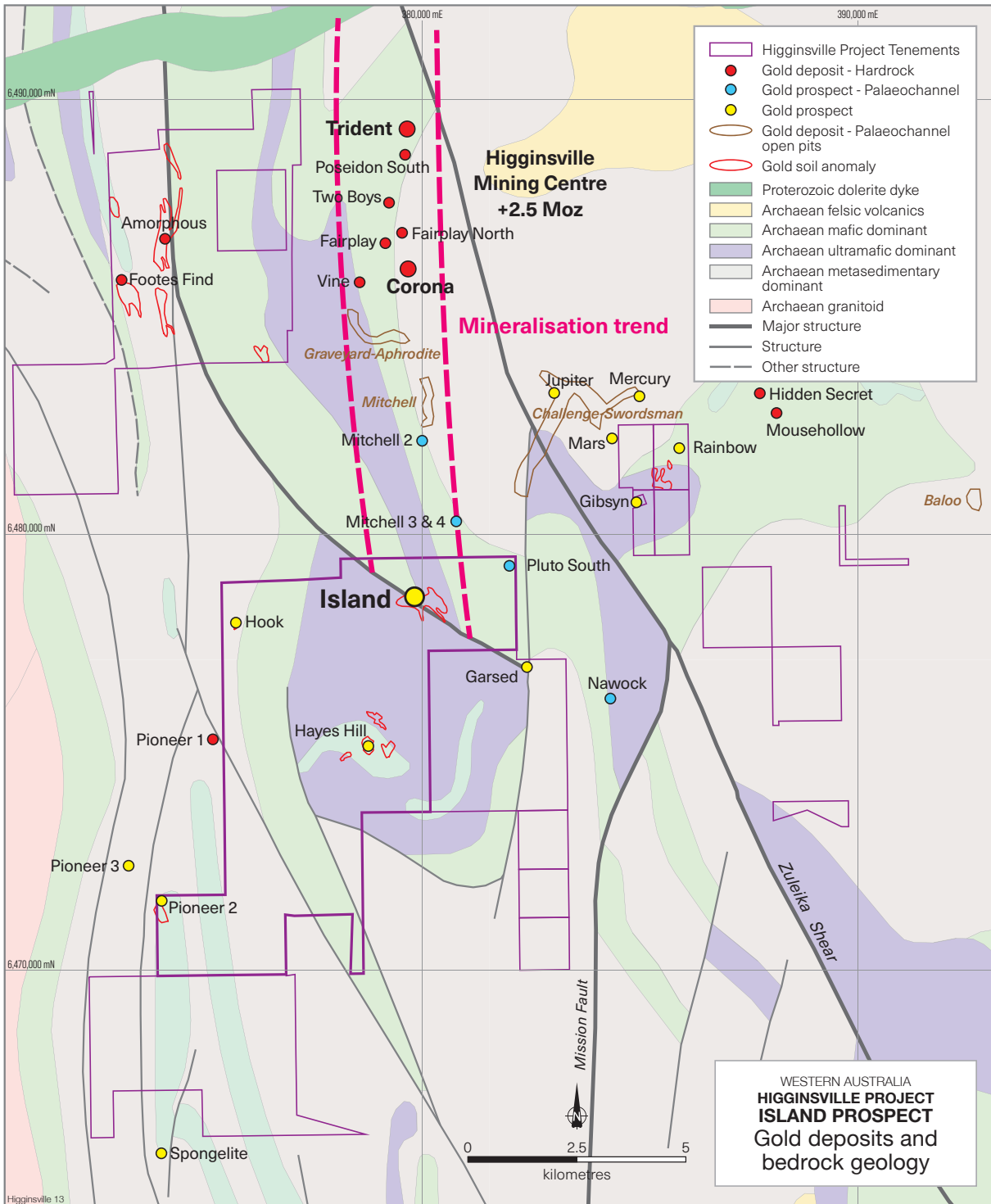
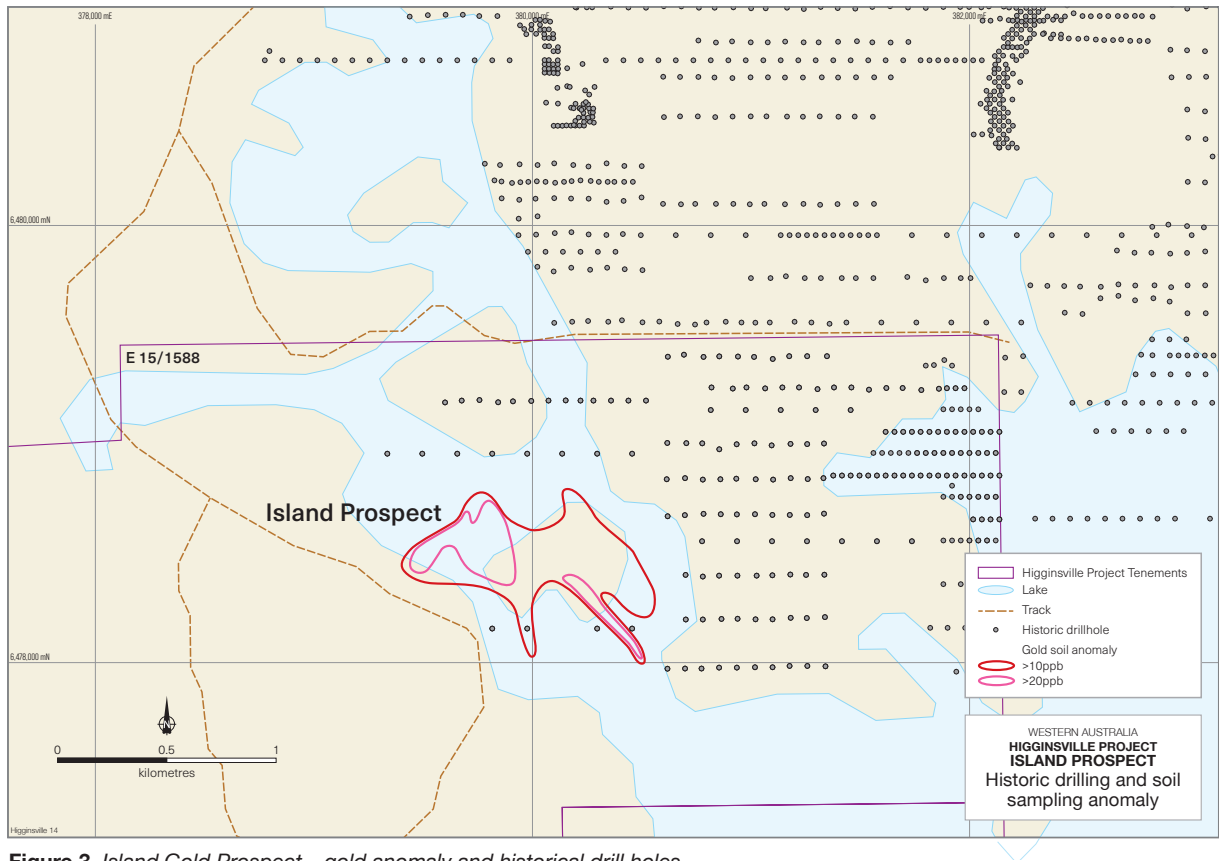


Figure 2 Island Gold Prospect – gold deposits and bedrock geology.



**Figure 3** Island Gold Prospect – gold anomaly and historical drill holes.

## Birties Gold Prospect

- Birties prospect features a gold geochemistry anomaly that was generated by a previous explorer in the early 2010s.
- The target is defined by a broad geochemical anomaly which is over 1km long and 1km wide.
- Peripheral, shallow drilling of between 6m and 40m depth from the 1990s returned anomalous results but appears to have missed the target.
- Argonaut plans to drill 10–15 RC drill holes to test the peak gold anomaly at the Birties prospect.

### Setting

- The Birties gold prospect is located 15km north of the Higginsville Mining Camp (+2.5Moz) and 32km south the St Ives (+15Moz) mining district in Western Australia (Figure 1).
- The drill target is defined by a broad gold anomaly, which is over 1km in diameter and is open to the south.
- The anomaly features a 500m by 100m, +20ppb gold peak (Figure 4).
- The peak of the anomaly has not been drill-tested. Nearby, shallow drilling returned anomalous results consistent with the shape of the peak anomaly.
- The targeted mineralisation is structurally emplaced, gabbro-hosted gold, in a similar style to the Trident deposit at Higginsville.

## Geochemistry Anomaly

The Birties prospect is defined by:

- a +1,000m by +1,000m >9ppb gold geochemical anomaly from auger drilling samples; with
- a 500m by 100m undrilled peak anomaly of +20ppb gold. (Figure 4).

The broader gold anomaly is open to the south.

## Drilling program

The drilling program will involve:

- 10–15 RC drill holes at the Birties gold prospect; and
- 15–20 RC drill holes at Island gold prospect.

The program is budgeted to cost \$350,000.

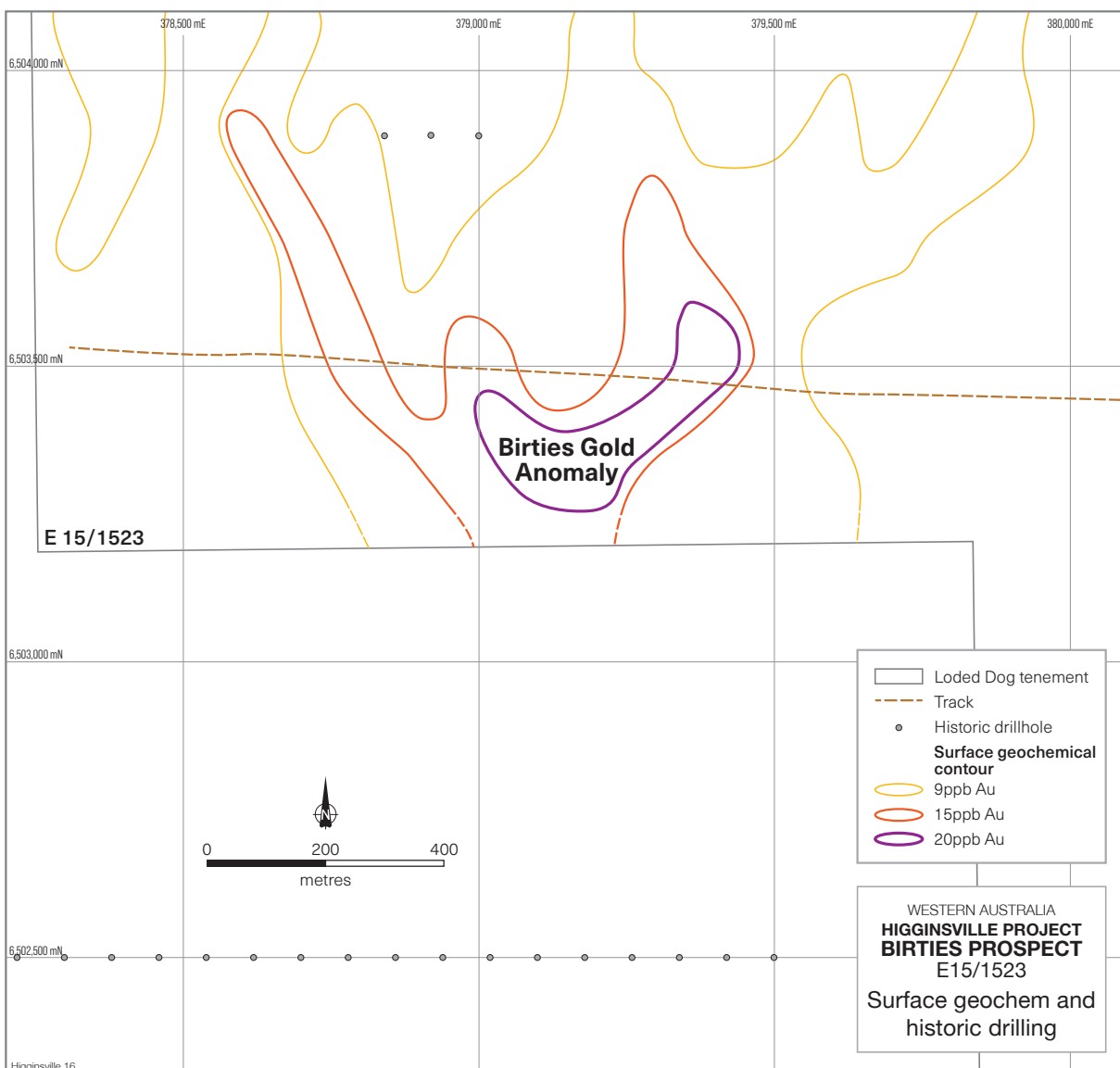


Figure 4 Birties Gold Prospect – gold anomaly and historical drill holes.

## Earn-In Terms

Argonaut and Loded Dog Prospecting Pty Ltd executed the Eastern Goldfields Earn-In Joint Venture and Royalty Agreement on 7 February 2017. Under the agreement, Argonaut has the right to earn an 80% interest in the tenement package according to the following terms:

- Argonaut earned a 51% interest in the tenement package by completing \$500,000 in exploration expenditure within two years of commencement; and
- Argonaut may earn a further 29% interest, for a total of 80%, for completing an additional \$1,500,000 in exploration expenditure within a further three years.
- Reimbursement of tenement acquisition expenses totalling \$250,000 was paid by Argonaut progressively under the agreement.
  - Reimbursement of \$100,000 was paid on execution of the definitive earn-in agreement;
  - Reimbursement of \$75,000 was paid on the first anniversary; and
  - Reimbursement of \$75,000 was paid on election to proceed to the second phase of the earn-in.
- An issue of ordinary fully paid Argonaut shares valued at \$50,000 was issued on execution of the definitive earn-in agreement.

The earn-in agreement is currently in the second earn-in phase.

*This announcement was authorised for release by*

**Lindsay Owler**

Director and CEO