



EL17/2018

GOLDEN RIDGE, TASMANIA

EDGI Campaign Report LZDD001

LICENSEE:

KINGFISHER EXPLORATION PTY LTD

(A FLYNN GOLD LIMITED COMPANY)

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## **EXECUTIVE SUMMARY**

EL17/2018 is located approximately 15km southwest of St Helens in north-eastern Tasmania. The licence covers an area of 167km<sup>2</sup> and is considered prospective for intrusive related gold system (IRGS) and orogenic gold style deposits.

This report documents exploration activities undertaken as a part of the approved EDGI campaign for the Link Zone.

The EDGI program completed at Link Zone was partially successful in its aims. LZDD001 successfully tested the Golden Ridge granodiorite – Mathinna Supergroup sediment contact, and it was found to be within ~50m of the location expected from the gravity modelling completed by Billiton (Davidson & Roach, 1990).

This result gives further confidence to use gravity modelling in future campaign planning, and consideration is being given to conducting additional gravity surveys over other parts of Golden Ridge.

Additionally, LZDD001 gave valuable structural information and information on mineralisation not seen from the RC holes. However, even though anomalous mineralisation was encountered in LZDD001, the extent and grade seen in LZRC004 was not able to be replicated. As such, the planned follow up RC drilling program was not executed due to the associated geological risk and the internal decision to allocate exploration funds to higher priority prospects.

It is acknowledged that the drilling program does not meet the full expenditure as outlined in Flynn's EDGI application, and as such only pro-rata grant reimbursement for the costs associated with drilling LZDD001 is sought.

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# 1. INTRODUCTION

The Link Zone drilling program had two main aims:

- To test for the continuation of gold mineralisation at Link Zone, located 1km to the southwest of the high-grade Trafalgar deposit in the Golden Ridge project, and
- To test the position of the contact between the Golden Ridge granodiorite and the Mathinna supergroup metasediments and compare this to geophysical modelling of gravity data.

These aims were proposed to be met by:

- Completing a diamond hole to twin and give structural context to Rc drillhole LZRC004 (33m @ 0.5g/t Au), drilled by Flynn Gold in 2022, and,
- Using the structural information from the diamond hole to understand the strike of mineralisation, drill a fence of RC holes perpendicular to mineralisation that follows a gold-in-soil anomaly that traverses north through the granodiorite contact.

LZDD001 was completed and successfully intersected the granodiorite. Unfortunately, even though anomalous mineralisation was encountered in LZDD001, the extent and grade seen in LZRC004 was not able to be replicated. As such, the planned follow up RC drilling program was not executed due to the associated geological risk and the internal decision to allocate exploration funds to higher priority prospects.

## 1.1 Exploration Rationale

The Link Zone lies 1km southwest of the Trafalgar Prospect. Both trend along the same intrusive contact between the Golden Ridge granodiorite and Mathinna supergroup metasediments. Diamond drilling at Trafalgar has recorded multiple intersections over 100g/t Au in multiple sub-parallel vein sets that span over 400m across strike.

Similar success at the Link Zone would build confidence in the continuity of high-grade gold mineralisation around the granodiorite contact for 1km between Trafalgar and the Link Zone and help develop an economically viable exploration target estimation.

Additionally, ground truthing the gravity model down to the granodiorite contact would either give confidence in, or allow for amendment of, the original granodiorite model. Mapping of the contact would allow for analysis of whether the contact had an influence on gold mineralisation, and if the gravity model could be used as a predictive tool for gold exploration at Golden Ridge.

## **2. GEOLOGICAL SETTING**

### **2.1 Regional Geology**

The Palaeozoic geology of north-eastern Tasmania comprises a 5-7km thick, deformed sequence of Ordovician – Silurian (to early Devonian) aged turbidites known as the Mathinna Supergroup. These rocks were folded and metamorphosed to sub- to mid-greenschist facies during the Early to Middle Devonian.

Several extensive S- and I- type granitoid batholiths intruded the Mathinna Supergroup during the Late Devonian, post-folding and peak metamorphism (around 400Ma to 375Ma). The granitoids are surrounded by narrow metamorphic aureoles indicative of intrusion at high crustal levels.

The Mathinna Supergroup and granitoids are unconformably overlain by flat-lying Permo-Triassic rocks of the Parmeener Supergroup which are intruded by sills of Jurassic dolerite. The Parmeener Supergroup rocks are typically unmineralised. Exhumation and weathering during the Tertiary were accompanied by widespread basaltic volcanism.

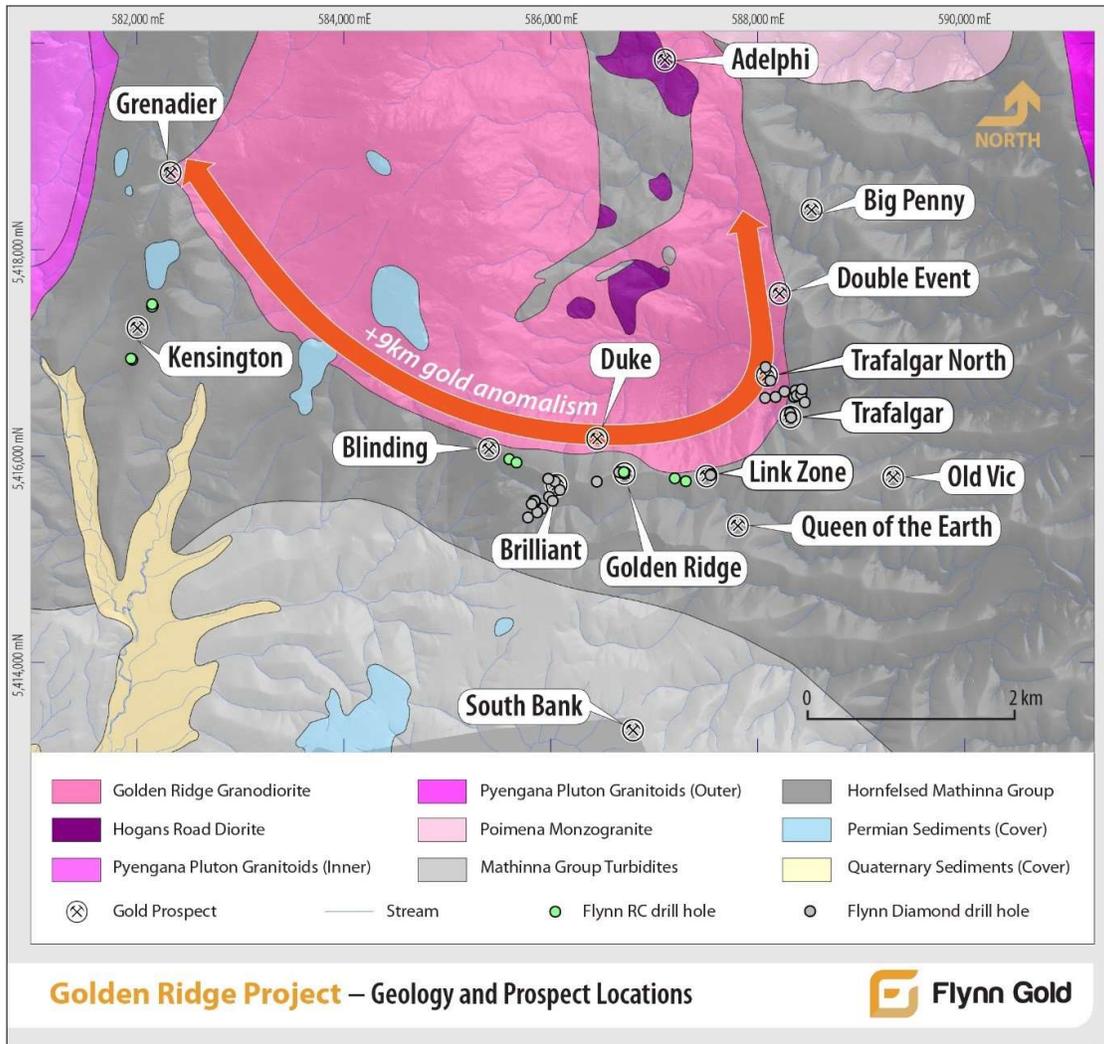
### **2.2 Project Geology**

The Golden Ridge Granodiorite (also known as Haley's New Country Granodiorite) forms a distinct topographic low to the north of the hornfels ridge and has been recognised to be of a distinct chemical composition relative to surrounding granitoid plutons and is the likely source of gold mineralisation (Davidson & Roach, 1990). Figure 1 shows the simplified geology of the EL17/2018 tenement area.

The southern contact aureole width is around 1.3km from the granite contact, determined by the presence of cordierite, andalusite, quartz recrystallisation and plastic deformation (Davidson & Roach, 1990). Within 100m of the granodiorite contact, pegmatitic veins and coarse grain disseminated muscovite is common within the hornfels aureole. Cordierite spotting occurs up to 800m away from the granodiorite contact.

Historical gold workings in the Golden Ridge district comprise gold-bearing quartz-sulphide (mainly arsenopyrite) veining hosted within a contact metamorphic hornfels aureole adjacent to the southern margins of the Golden Ridge Granodiorite pluton. Mineralised veins are also hosted within the granodiorite itself at the granodiorite/hornfels contact zones. The hornfelsed Mathinna Supergroup sediments along the southern contact boundary, form a striking topographic relief that is the "Golden Ridge".

Gravity modelling (in Davidson & Roach, 1990) indicates the southern contact of the Golden Ridge Granodiorite and Mathinna Supergroup sediments dips approx. 45° to 65° to the south. The thickness of the hornfelsed Mathinna Supergroup sediments above the contact at the Brilliant workings is approximately 1200 to 1300m, while at the Queen of the Earth workings, the estimated thickness is 600m. Gold mineralisation at the Trafalgar prospect is hosted in both granodiorite and adjacent hornfelsed Mathinna Supergroup sediments.



**Figure 1.** Golden Ridge Project simplified geology and key prospect areas.

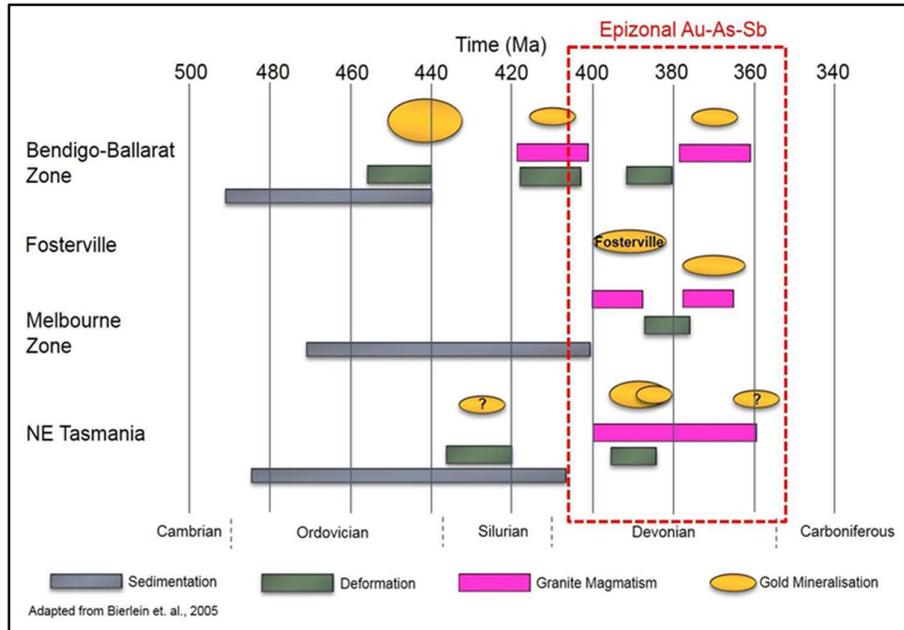
### 2.3 Mineralisation Styles

In north-eastern Tasmania, the Mathinna Supergroup rocks are host to over 600 gold prospects and deposits, the most significant of which are Beaconsfield (3.25Mt @ 19.0g/t Au), the New Golden Gate mine (0.72Mt @ 26g/t Au) and Pinafore Reef, Lefroy (0.97Mt @ 10.1g/t Au). Most of the deposits are orogenic mesothermal to epizonal vein-style and occur in clusters along regional NNW trends. Intrusion-related gold (IRG) style mineralisation is noted to occur in the Lisle-Golconda and Golden Ridge areas. Significant Sn-W deposits are associated with S- and I- type granites. North-eastern Tasmania is an historical tin mining region.

At Golden Ridge IRGS style mineralisation was historically mined at eight known gold prospects. The Brilliant, Golden Ridge, Blinding, and Queen of the Earth prospects (Figure 1) are hosted within the hornfels aureole in Mathinna Supergroup rocks. The Trafalgar and Double Event prospects are hosted within the granodiorite near the hornfels contact. All the prospects are characterised by the presence of sheeted to stockwork thin fractured controlled quartz-sulphide veinlets (1-3mm wide), also with larger, wider but less laterally and vertically extensive quartz-sulphide veins up to 0.5m thickness.

Arsenopyrite is the dominant sulphide, with lesser pyrite, galena, chalcopyrite, sphalerite and pyrrhotite common. Visible “free” gold has been observed in drill core from the Brilliant and Trafalgar prospects, and in float rock in the Link Zone prospect area.

Based on lithological, structural, tectonic and metallogenic similarities, north-eastern Tasmania has been interpreted as a lateral correlate of the turbidite-dominated fold-thrust belt of the western Lachlan Orogen in central Victoria (Bierlein et al. 2005). The timing of gold mineralisation in north-eastern Tasmania shows a broad relationship to the epizonal Au-As-Sb deposits of central Victoria (Melbourne Zone). The age of the Golden Ridge granodiorite is currently unknown.

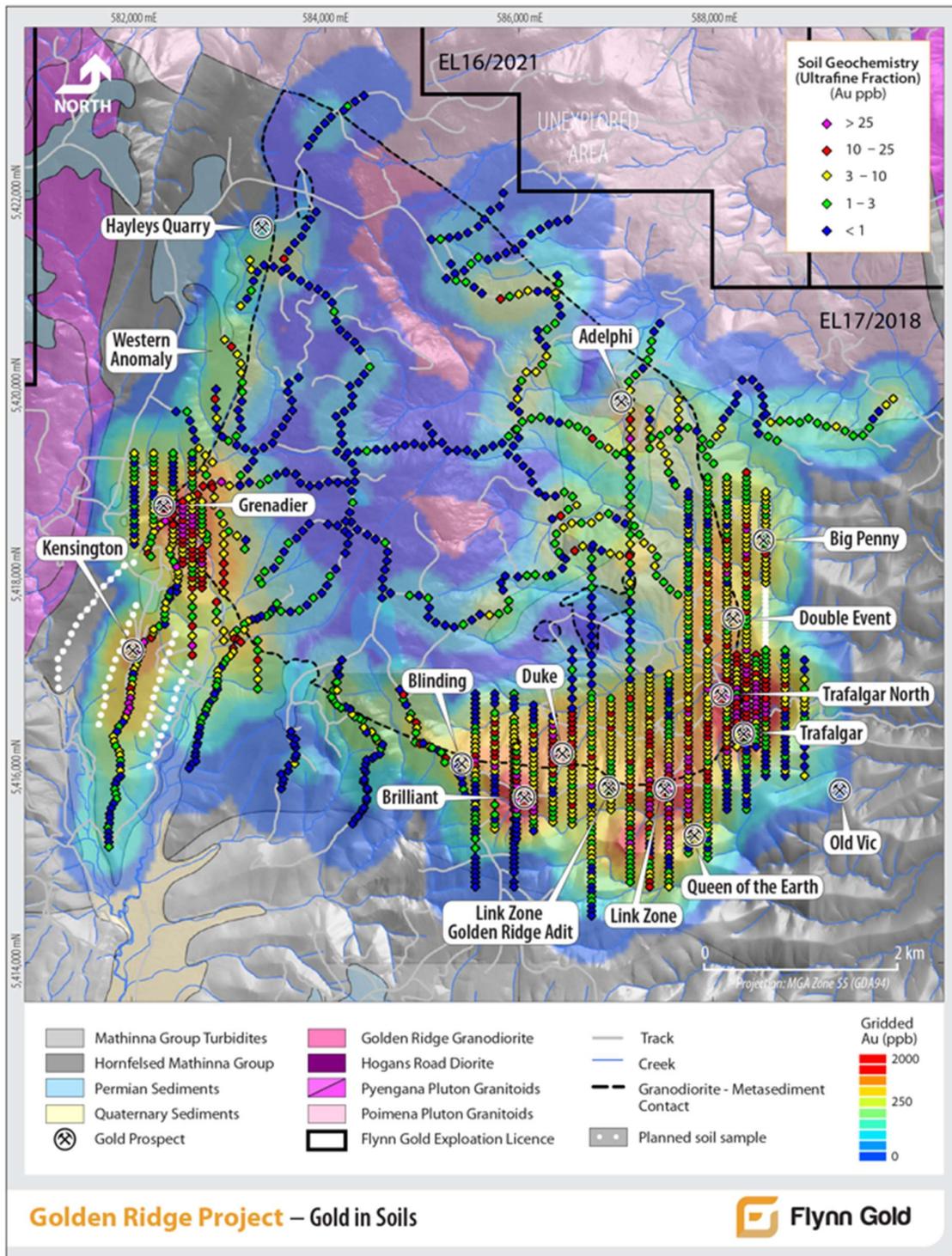


**Figure 2:** Summary diagram of the timing of sedimentation, deformation, granite magmatism and gold mineralisation events in central Victoria and NE Tasmania. Adapted from Bierlein et al (2005).

### **3. REVIEW OF PREVIOUS WORK**

There are no historic workings known at the Link Zone and no significant exploration in the local area has been reported by previous tenement holders. Gold anomalies were not recorded until Flynn Gold conducted soil sampling in the area in 2020.

Flynn Gold used the UFF soil sampling method (Noble et. al., 2020) over a large area of the Golden Ridge project to define anomalous gold-in-soils over a combined strike length of at least 9km along the granodiorite-metasediment contact zone. Included in this zone is an area of 1km from the Link Zone through to Trafalgar. This anomalous zone is up to 800m wide in the north south direction (Figure 3).



**Figure 3.** Golden Ridge regional soil anomaly map. A soil anomaly extends for 9km following the southern contact of the granodiorite intrusion. The Trafalgar-Link Zone anomalous corridor trends for over 1km along the southeast corner of the contact.

In 2022, Flynn Gold completed a 4 hole-scout RC drilling campaign (see Tables 1 & 2) at the Link Zone targeting gold-in-soil anomalies at the top of the ridge. LZRC004 was the most successful of these holes, recording a broad zone of gold mineralisation of 33m @ 0.5g/t Au from 40m including:

- 2.0m @ 2.2g/t Au from 40.0m
- 1.0m @ 2.2g/t Au from 54.0m
- 3.0m @ 2.0g/t Au from 61.0m

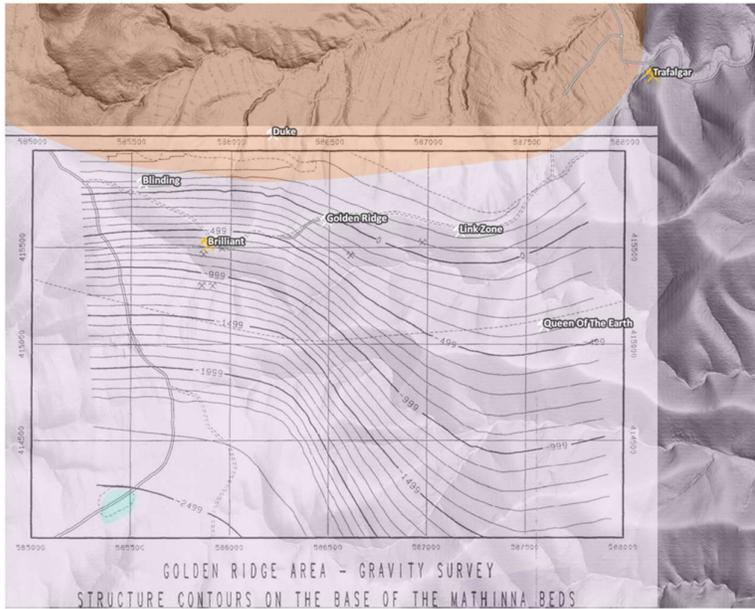
Hole_ID	From (m)	To (m)	Interval (m)	Au g/t
LZRC003	26	27	1	0.32
LZRC003	94	97	3	0.42
LZRC003	126	127	1	0.62
LZRC004	1	3	2	0.51
LZRC004	17	19	2	0.28
LZRC004	40	73	33	0.5
incl	40	42	2	2.24
and	47	49	2	0.57
and	52	53	1	0.43
and	54	55	1	2.26
and	61	64	3	1.98

**Table 1.** Link Zone RC program 2022 Significant intercepts

HoleID	Easting (m)	Northing (m)	Elevation (m)	Azi Grid (degrees)	Dip (degrees)	Hole Depth (m)
LZRC002	587200	5415800	384	64.5	-65	115
LZRC003	587306	5415770	385	114.5	-65	127
LZRC004	587551	5415840	361	354.5	-65	115
LZRC005	587547	5415830	363	174.5	-65	115

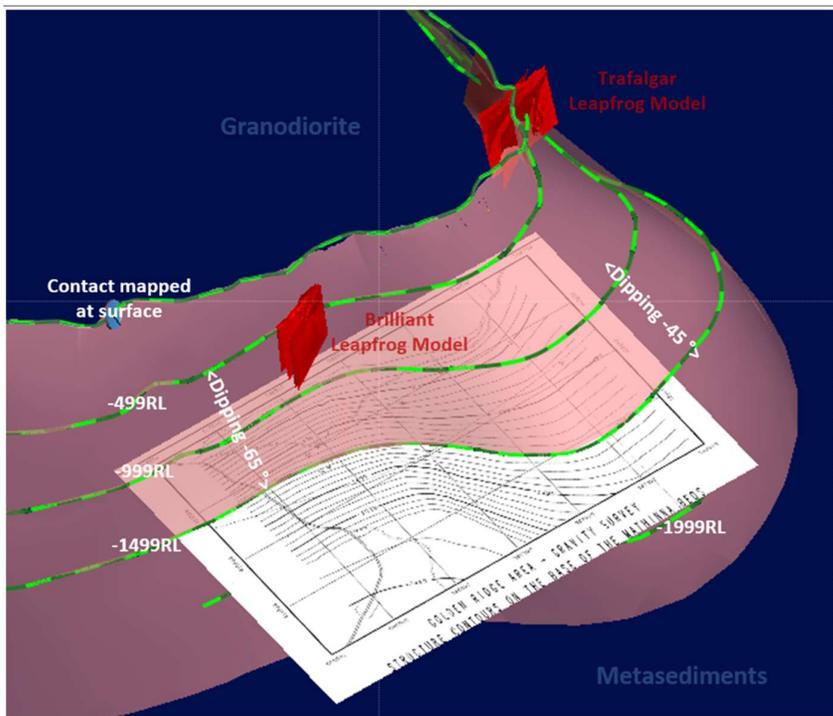
**Table 2.** Link Zone RC drill hole location data

The gravity modelling completed by Billiton in 1990 (Davidson and Roach 1990) investigated the nature of the contact between the Golden Ridge granodiorite and the Mathina Supergroup metasediments. Forward modelling of the residual gravity data suggested the contact dips between 45° and 65° to the south and southeast (Figure 4).



**Figure 4.** South and east duke contact of the Golden Ridge granodiorite (orange) and Mathinna Supergroup metasediments (purple). Gravity modelling contours from Billiton (Davidson & Roach, 1990) are superimposed, with the contours representing depth of metasediments (RL) to the granodiorite contact. Closely spaced contours to the west indicate contact dipping  $\sim 65^\circ$  to the south, while wider spaced contours to the east indicate contact dipping  $\sim 45^\circ$  south.

The gravity modelling contours have been used to create a Leapfrog model of the granodiorite contact (Figure 5).



**Figure 5.** Oblique view looking down to the northeast. Leapfrog model of granodiorite contact, created using gravity modelling from Billiton (Davidson & Roch, 1990) and drilling data from Flynn diamond holes at Trafalgar.

## 4. EXPLORATION COMPLETED FOR EDGI CAMPAIGN

Exploration activity undertaken for this report includes:

- Drilling of one diamond drill hole (LZDD001) to 166.8 m to twin the previously completed RC hole LZRC004.
- Processing of drill core, including logging, photographing, sampling and assaying
- Data validation and QAQC.

Drill collar information for LZDD001 is shown in Table 3, below.

Drillhole ID	Easting (mE)	Northing (mN)	RL (m)	Azimuth (True)	Dip (degrees)	EOH Depth (m)
LZDD001	587544	5415830	348	352	-49.6	167

**Table 3.** Drill collar information for LZDD001. Note location data in GDA1994.

Assay results confirmed mineralisation within a broad zone, containing multiple narrow quartz-sulphide veins ranging from 3 – 30 mm in width. Significant intercepts for LZDD001 are shown in Table 4.

Drillhole ID	From (m)	To (m)	Interval (m)	Au (g/t)	Comments
LZDD001	38.6	39	0.4	1.63	Qtz-py veining in sandstone
	45	46	1	0.31	Granitic veinlets
	47	48	1	0.92	Granitic veinlets
	60	60.4	0.4	0.3	Qtz veinlets in sandstone
	66	66.4	0.4	0.37	Qtz-py veining in interbedded hornfels
	92	92.45	0.45	0.52	Oxidised granodiorite

**Table 4.** Significant intercepts for LZDD001 (>0.3 g/t Au)

Note: all significant intercepts cut-off grade is 0.3 g/t Au; reported grades are calculated as length weighted averages; intercepts are downhole lengths and may not be true widths of the veins / intersections; drill core samples are analysed for Au by photon analysis. Qtz = quartz, py = pyrite.

Drill log, core photographs and assay results have been provided.

The plan view of LZDD001 and cross section are shown in Figures 6 and 7 below.

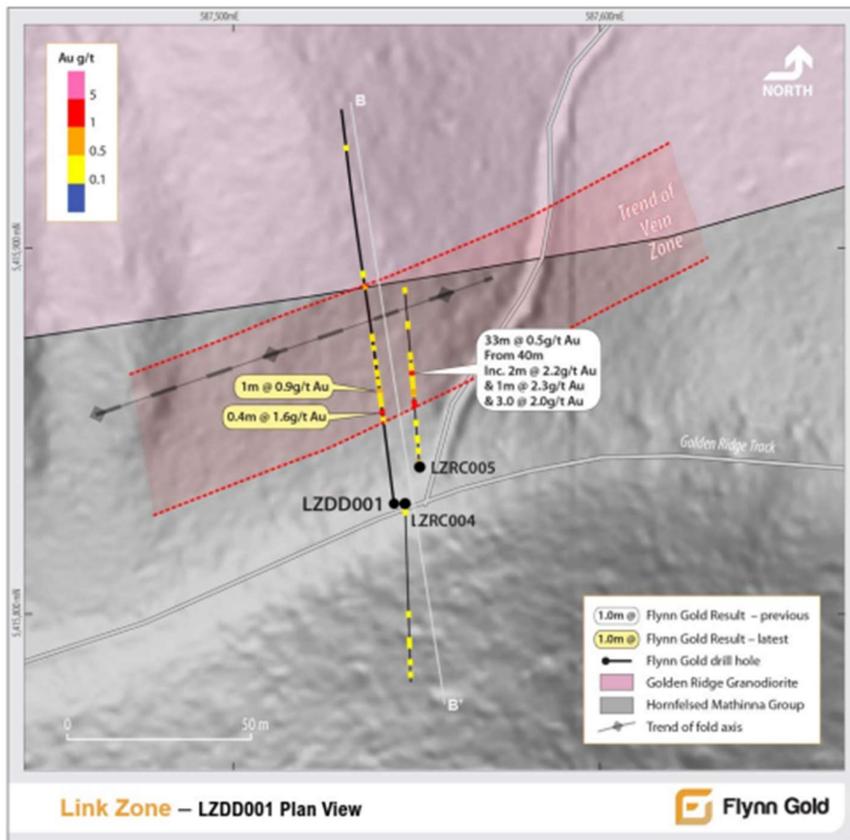


Figure 6. Plan view of LZDD001

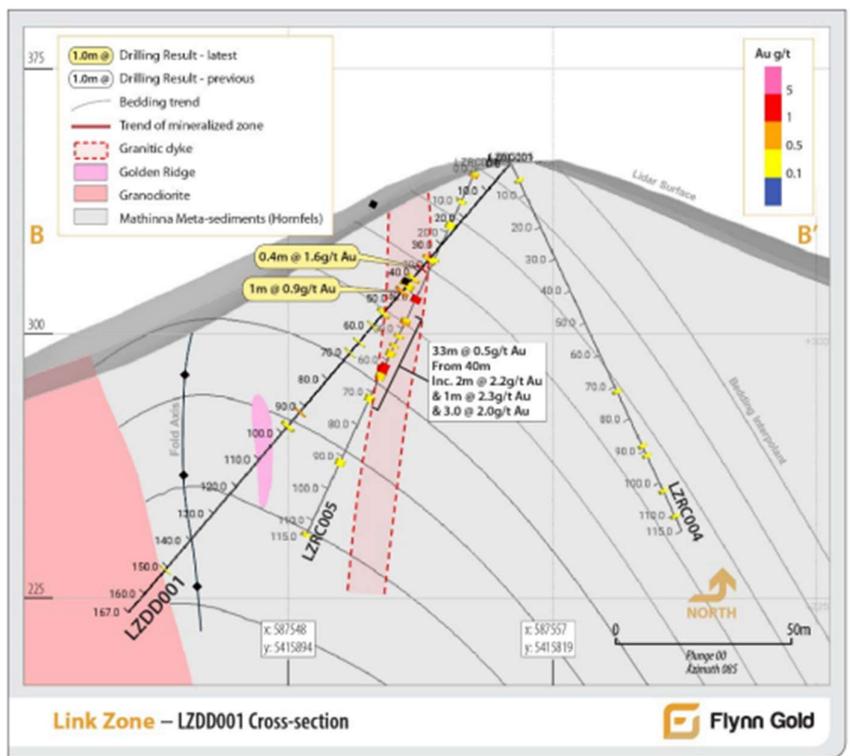


Figure 7. Cross section of LZDD001

## 5. DISCUSSION OF RESULTS

The two main aims for this program were: to test the accuracy of the Golden Ridge granodiorite and Mathinna Supergroup metasediments contact, and to test the continuation of gold mineralisation at Link Zone.

LZDD001 intercepted the granodiorite contact within ~50 m of where the gravity modelling completed by Billiton (Davidson & Roach, 1990) had proposed. This is within an acceptable margin of error for Greenfields/Brownfields exploration.

Confirmation of the location of the granodiorite – metasediment contact gives greater confidence to use this interpretation at Golden Ridge. Future exploration campaigns targeting mineralisation along the contact can incorporate this information at the planning stage. Further gravity surveys may also be considered across other parts of the granodiorite contact to refine target generation.

LZDD001 was designed to twin LZRC004 to replicate the analysis results seen in LZRC004 in a discrete manner, and to gain valuable structural information about the mineralisation seen in LZRC004. Whilst anomalous results were seen in LZDD001 (refer Table 4 for significant intercepts), this hole failed to replicate the grade produced in LZRC004 (33m @ 0.5g/t Au).

As such, the planned follow up drilling program was not warranted. The proposed fence of RC drillholes was not executed due to the associated geological risk and the internal decision to allocate exploration funds to higher priority prospects.

It is acknowledged that the drilling program does not meet the full expenditure as outlined in Flynn's EDGI application, and as such only pro-rata grant reimbursement for the costs associated with drilling LZDD001 is sought.

## 6. CONCLUSION

The EDGI program completed at Link Zone was partially successful in its aims. LZDD001 successfully tested the Golden Ridge granodiorite – Mathinna Supergroup sediment contact, and it was found to be within ~50m of the location expected from the gravity modelling completed by Billiton (Davidson & Roach, 1990). This gives further confidence in using the gravity modelling for future campaign planning, and consideration is being given to conducting additional gravity surveys over other parts of Golden Ridge.

Additionally, LZDD001 gave valuable structural information and information on mineralisation not seen from the previously drilled RC holes. However, even though anomalous mineralisation was encountered in LZDD001, the extent and grade seen in LZRC004 was not able to be replicated.

## 7. ENVIRONMENT

Vehicle access tracks and drill pads were established at Link Zone as a part of the previous RC drilling campaign (2022). LZDD001 was collared on an existing drill pad, so no further disturbance from this drill hole has occurred.

Care is also taken to prevent the spread of weeds by keeping vehicles and equipment clean.

As part of the work program application process, the drill site was inspected by an MRT Environmental Assessment Officer. The work program was approved, subject to the Mineral Exploration Code of Practice and a few site-specific conditions. All areas will be rehabilitated in accordance with the Mineral Exploration Code of Practice.

## 8. EXPENDITURE

Drilling was completed between 9 December 2024 and 9 January 2025. Direct drilling costs associated with this drilling program have been collated and provided. A summary is shown in Table 5, below.

Supplier	Cost type	Total program cost
Wholecore	Mobilisation, access and drill pad costs	\$ 5,460
Wholecore	Drilling contractor costs (metres, standby, consumables, etc)	\$ 41,738
BP	Drilling Fuel - 9 Dec 24 - 9 Jan 25	\$ 1,936
OnSite Laboratory Services	Assays	\$ 5,005
		\$ 54,139

**Table 5:** Third party supplier costs for LZDD001

## 9. REFERENCES

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