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## **Continental-Scale Prospectivity**



- > Geoscience Australia's IOCG mineral potential map defines the Oonagalabi area as having moderate potential to host an IOCG system
- > Transected by continent-scale gravity lineaments
- > Oonagalabi is adjacent to a major crustal structure (Irindina – Aileron Province boundary)
- Deep crustal structural architecture is common to many Australian Tier 1 deposits



# **Regional Geology**





## Oonagalabi Domain Geology





# **Oonagalabi Formation: Typical Outcrop Occurrences**



# **Historic Exploration**



- > Russgar Minerals (1970–1974): regional mag-rad survey, VLF\_EM survey, ground magnetic survey, single line resistivity traverse, trial IP and 14 drillholes
- > Kinex / Amoco / D'Dor Mining NL (1979-1983): photo-interpretation, soil/rock chip sampling, pole-dipole IP, drilling (8 holes)
- > Clarence River Group (1992-2020): extensive garnet exploration / ML's
- > Silex (2008-2010): pole-dipole IP, single diamond hole
- > In total, 23 drillholes covering 1,300m strike, average 79m depth
- > Average intercept: 13.1m @ 0.44% Cu, 0.96% Zn, 0.08% Pb<sup>1</sup>





# Litchfield Exploration: Succeed Quickly or Fail Fast





#### New Data: Multi-Element Soils and Rocks



- > Mineralisation is hosted exclusively within the Oonagalabi Formation: marble, calcsilicates and garnet quartzite
- > Oonagalabi Formation has 3km discontinuous strike, 1.5km continuously exposed strike, 5 – 40m thick, +1km unfolded width
- > Soil geochemistry defines a 1km strike of +0.4% Cu, +0.4% Zn in central zone<sup>3</sup>
- > Cu-Zn-Pb-Au-Ag mineralisation has associated pathfinder anomalism of W, Sn, In, Cd, Mo, Bi, Co
- > Florence Schist has +400ppm TREO (possible REE scavenging in garnet)
- > Oonagalabi Formation is REE depleted



### New Data: 50m Drone RTP Magnetics





# New Data: Sentinel 2 Hyperspectral data



- > Multivariate statistical classifier trained on Cu anomalous soil geochemistry
- > +20 exploration targets
- > CO<sub>2</sub> and CH<sub>4</sub> define outcropping Oonagalabi Formation
- > Maps out prospective stratigraphy



### New Data: Pole - Dipole IP



- > New Pole-Dipole IP survey has defined an extensive, highly chargeable anomaly: two parallel zones, +1km strike, +500m deep, +20mV/V<sup>4</sup>
- > Western IP anomaly has strong spatial association with Oonagalabi Formation Outcrop, Central anomaly is mostly 'blind' with little surface expression: potentially doubling size of system
- > System is open to NE and SW: Central anomaly extends under mafic granulite 'cover', 1km untested Oonagalabi Formation to the southwest
- > Almost all historic drilling outside of +20mV/V chargeability anomalies
- > 16 of 22 historic holes averaged 13.1m @ 0.44% Cu, 0.96% Zn, 0.08% Pb<sup>1</sup>



# **Complex Folding: Multiple Mineralized Lodes**



- > High chargeable zones restricted to Oonagalabi Formation
- > Interpreted, two sub-parallel, overturned synforms (Western, Central)
- > Central synform has little surface expression (blind), increases tonnage potential, highlights importance of geophysics to improve sub-surface 'visibility' along 3km mineralized trend
- > Pre-folding width of Oonagalabi Formation is +1km (Western, Central, Eastern fold closures)
- > Most historic drillholes missed +20mV/V chargeability anomalies, focused on outcropping peripheral anthophyllite alteration

## New Data: Makes New Opportunities



- > 2025 IP survey defined significantly larger chargeable anomaly compared to 2008 survey
- > 2025 drone magnetics defined strong magnetic anomaly down western flank of system
- > Strong magnetite Bi-Co +/-Au(?) mineralisation (pXRF): overprints anthophyllite-Cpy-Sph mineralisation = multiple mineralizing events<sup>2,3</sup>
- Large, pipe-like magnetic body +1km to NE is potentially linked to newly identified magnetite-rich mineralisation, possible heat/metal source if Oonagalabi Cu-Zn is skarn-related



# Summary and Forward Plan



- > IP has successfully defined a potentially large disseminated sulphide system
- > Historic and 2025 drilling has confirmed the sulphide bearing nature of the IP chargeability anomalies
- > New magnetite-Bi-Co rich mineralisation style identified along western flank, potential gold-rich mineralization – IOCG Potential
- > New magnetic data shows potential link to large magnetic pipe-like structure to NE
- > Tenement-wide VTEM survey planned to assess potential for high-grade sulphide feeder structure and/or remobilized sulphide breccias ala Jervois
- > Ground EM and Ground Gravity
- > Phase 2 drilling



#### REFERENCES

- > 1. Litchfield ASX Announcement 10th October 2024. Litchfield Secures Strategic Copper Gold Portfolio NT Update, Appendix 1
- > 2. Litchfield ASX Announcement 24<sup>th</sup> January 2025. Major Mineral System Potential Oonagalabi JORC Update, Figure 5
- > 3. Litchfield ASX Announcement 29<sup>th</sup> January 2025. Outstanding Results Unveil Scale and Potential at Oonagalabi
- > 4. Litchfield ASX Announcement 5<sup>th</sup> March 2025. Major Discovery 1km Plus High Chargeability Target Found
- > 5. Litchfield ASX Announcement 27<sup>th</sup> March 2025. Oonagalabi Drill Programme Commenced

