



Lefroy Exploration

Au Cu Mineralisation in the Burns Intrusion Complex

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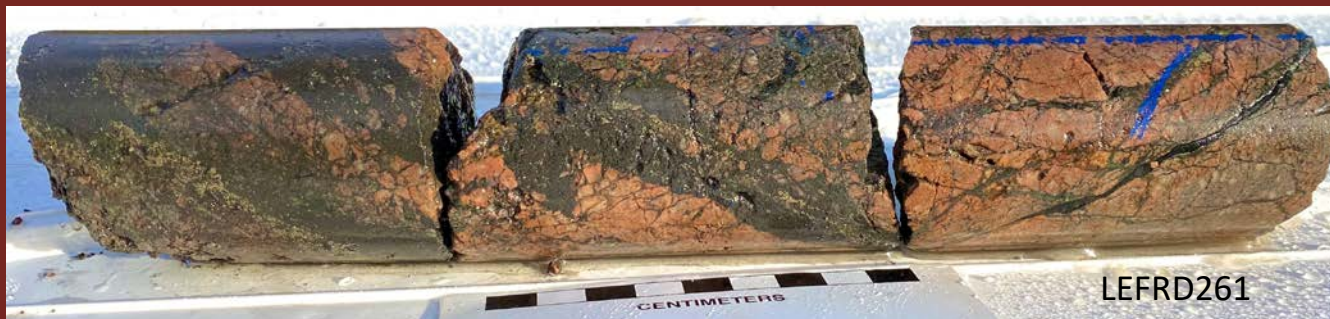
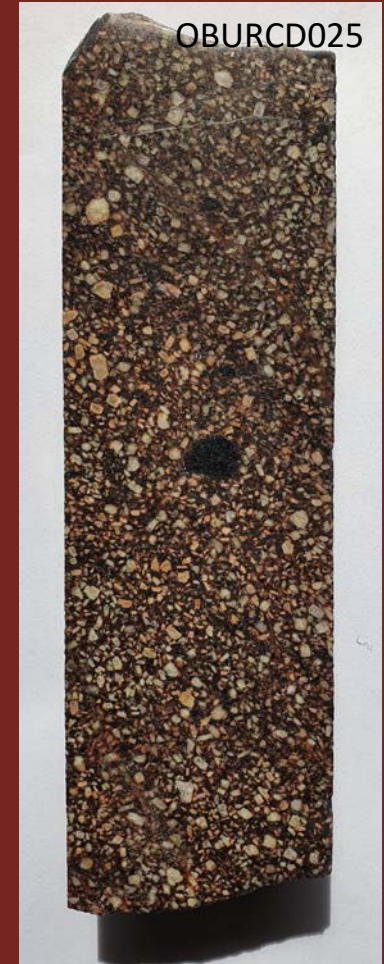
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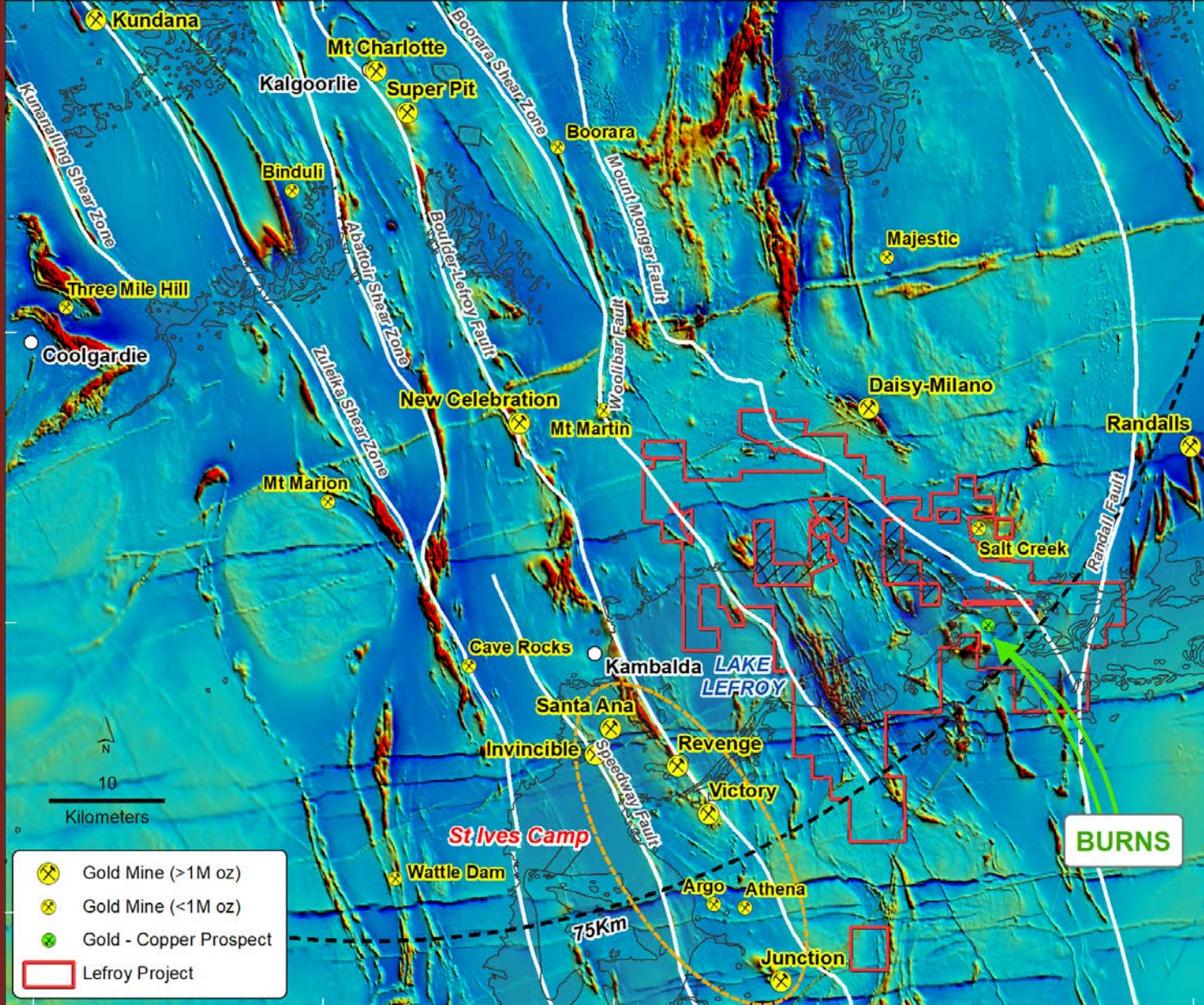
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Burns Background



- **1985**--BHP Minerals recognised annular magnetic feature considered typical of an anomaly developed above a carbonatite. Two shallow diamond holes completed intersecting magnetite bearing dolerite and porphyry
- **2008-2010**--Newmont Australia completed 157 aircore holes. An AC hole 2km to west of Burns intersects 1m @ 1.76g/t Au
- **2011-2016** --Octagonal Resources Drilling discovers Burns. EIS diamond hole OBUDD001 intersects 55m @ 0.5g/t Au & 0.2% Cu from 229.85m in diorite porphyry and basalt
- **Jan 2021** --LEX RC drilling at Burns intersects 38m @ 7.63g/t Au & 0.56% Cu from 134m in LEFR260 hosted by diorite porphyry. Ongoing drilling defines Au Cu Mo system hosted in multiphase diorite intrusions and basalt

Burns –Regional Context

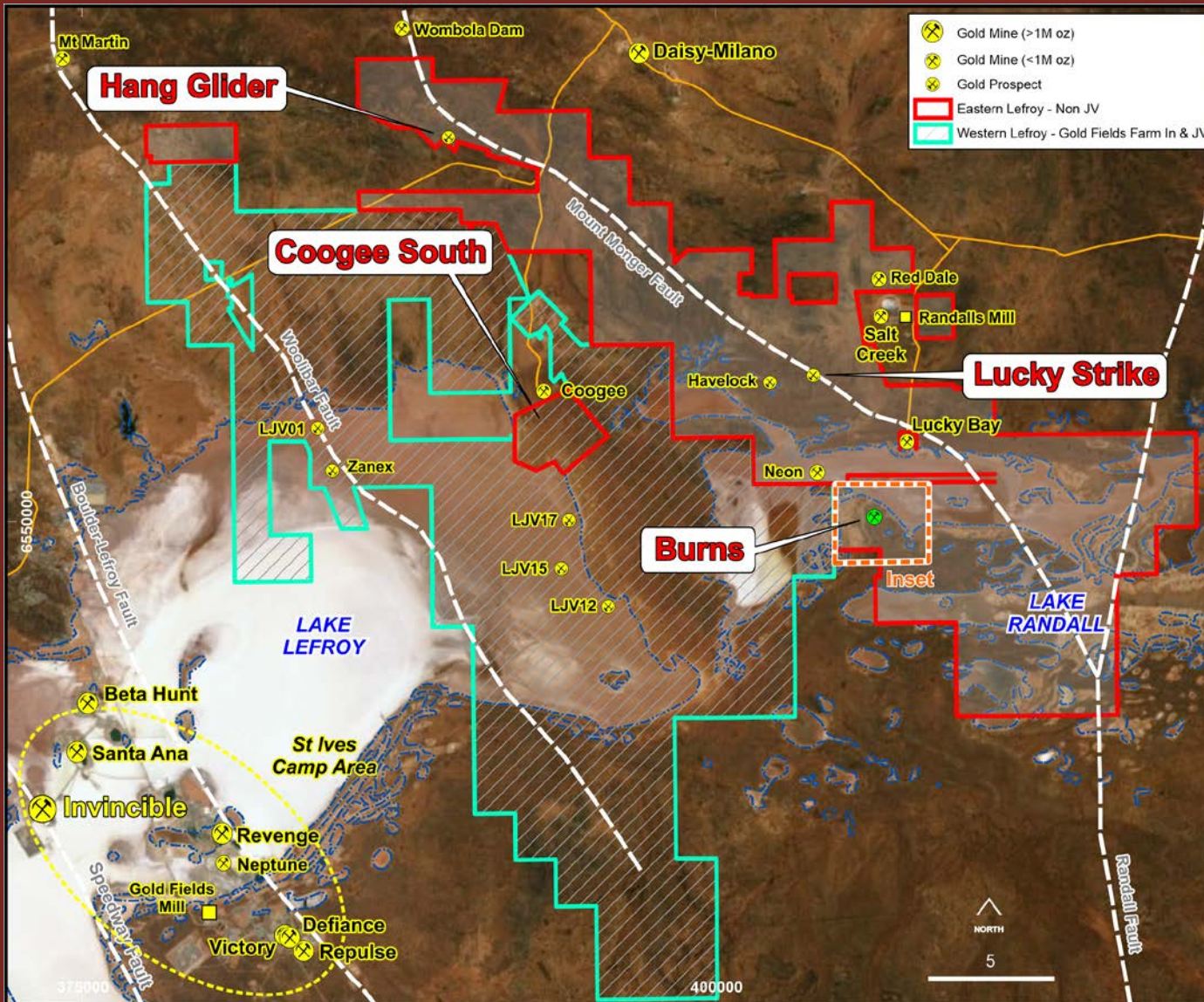


- Burns is located approximately 75Kilometers south east of Kalgoorlie
- Geophysical data provided the exploration focus
- Burns has a discrete annular magnetic feature
- Located near to the regional scale Randalls and Mt Monger Faults

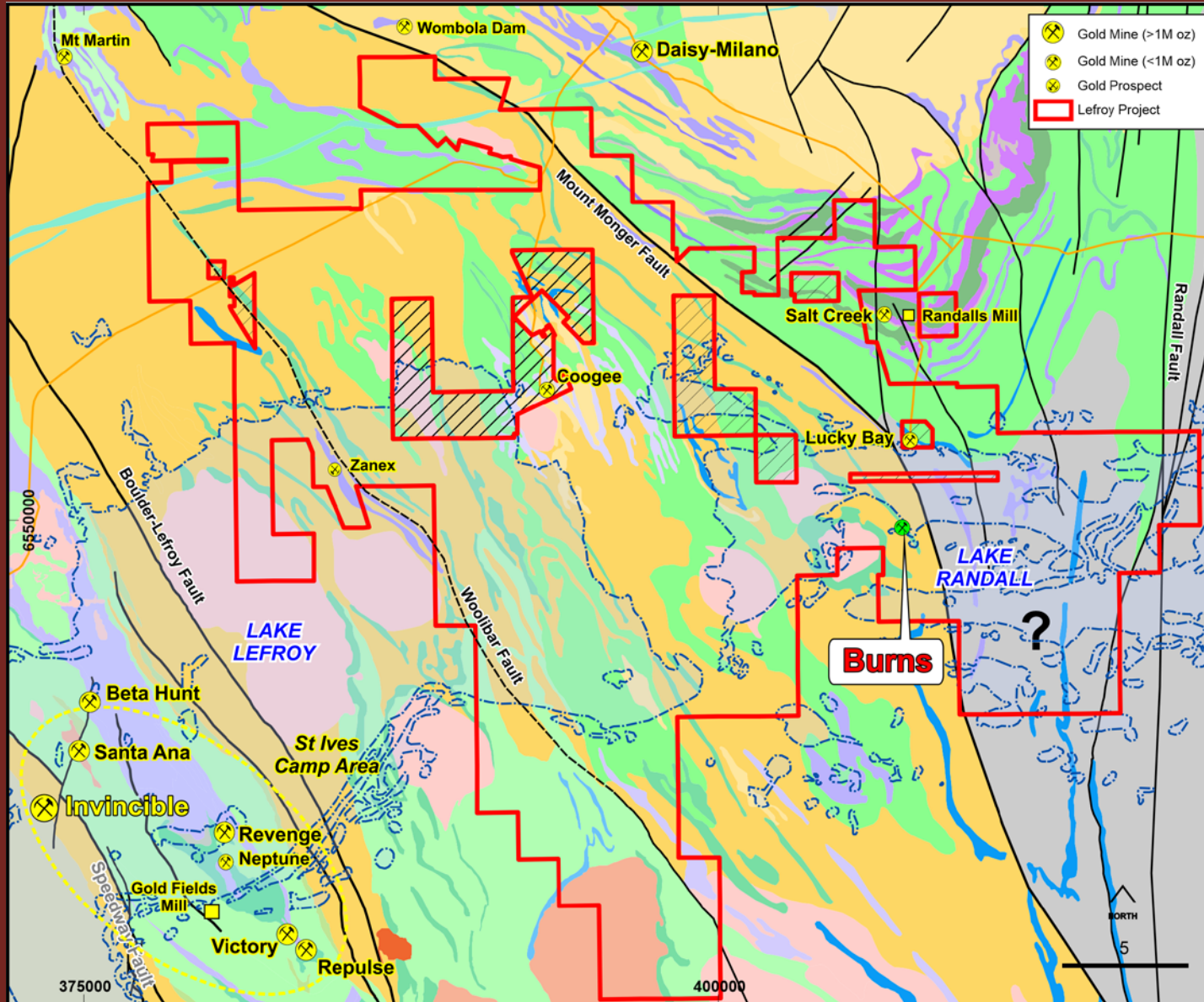
Burns Location

Focussed on a new style of high grade gold-copper mineralisation within a tier one gold province

- Commanding wholly owned large prospective land package within world-class gold producing district- 638km²
- Generative exploration approach underpinned and complemented by Farm In & JV with Gold Fields at Western Lefroy
- Portfolio of targets over a 32km strike length straddling the regional scale Mt Monger Fault
- Aggressive ground monitoring secured the Burns tenement in late 2019



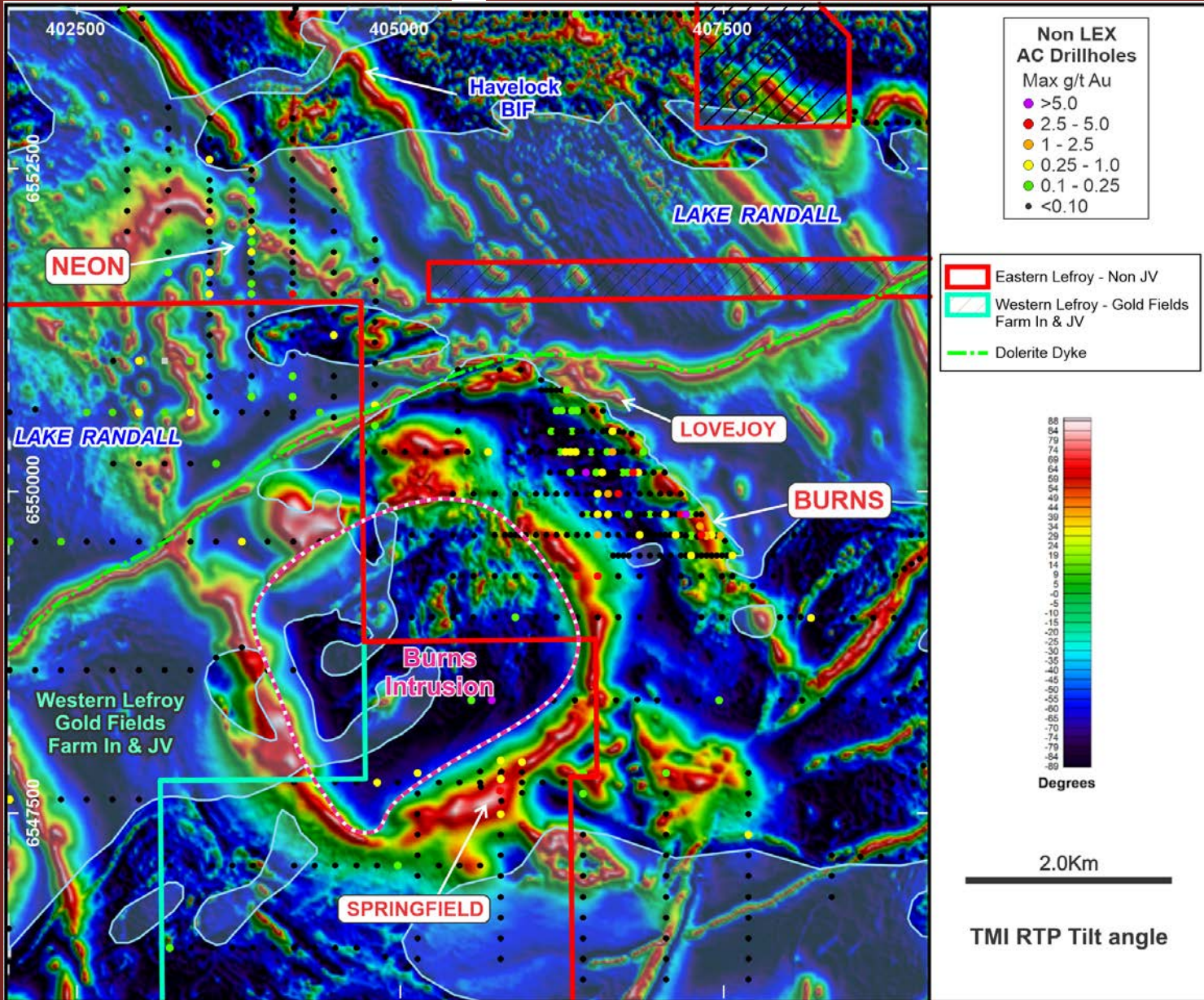
Lefroy Gold Project-Interpreted Geology



Flagship project in a highly gold endowed gold district of the Eastern Goldfields

- Project area bounded by major regional structures that control gold mineralisation in the district
- Burns located west of and near to regional scale Mt Monger Fault, and within Kalgoorlie Terrane
- Geological interpretation in general Burns area reliant on geophysical data and sparse drilling
- Area east of Burns, and beneath Lake Randall unexplored-convergence of Mt Monger and Randall Faults

Burns-- Magnetics



- Burns magnetic corridor lies outboard of the larger Burns Intrusion
- Few effective drill holes into the Burns Intrusion or annular magnetic rim
- LEX exploration focus along the Burns-Lovejoy corridor and more recently out on to Lake Randall
- Two recent LEX RC holes evaluated the Burns Intrusion and rim
- Area covered by Salt Lakes

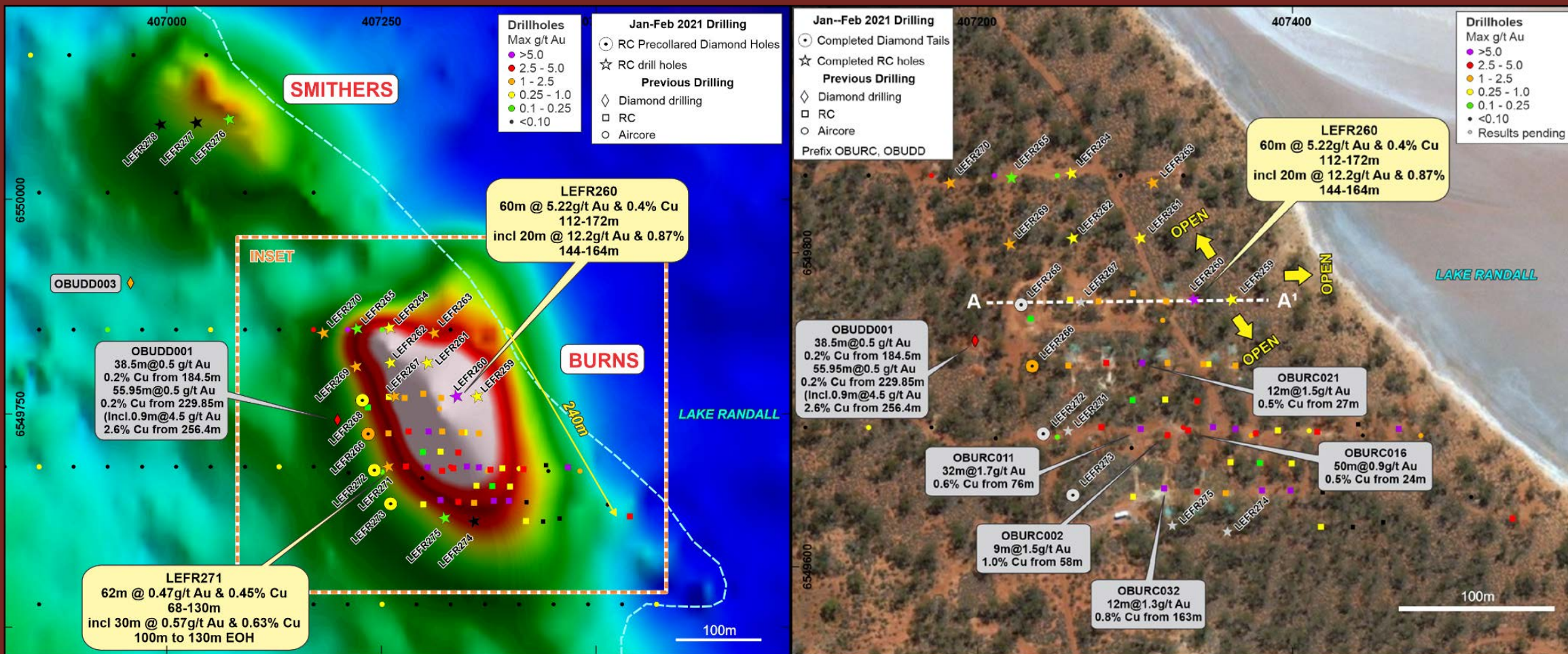
*LEX ASX release Multiple Magnetic Anomalies Highlight 3000m Trend at Burns: 28 September 2021

Burns & Lake Randall



Burns – Phase 1 -Discovery Program

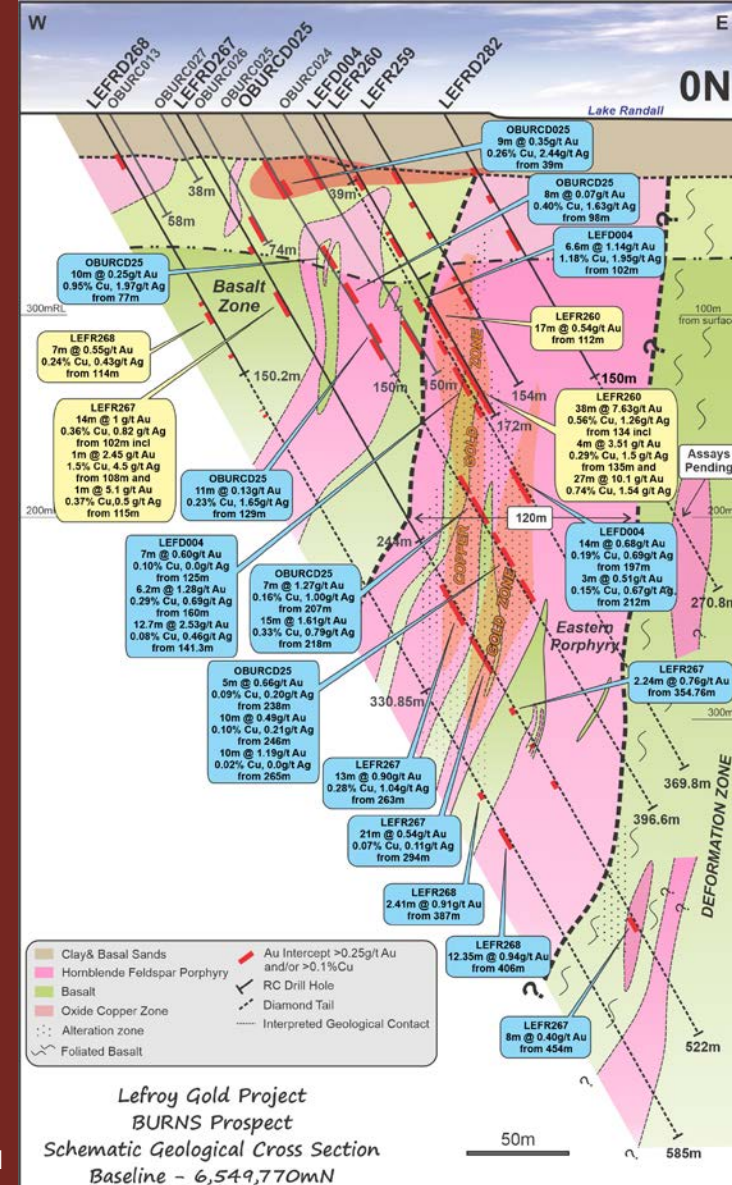
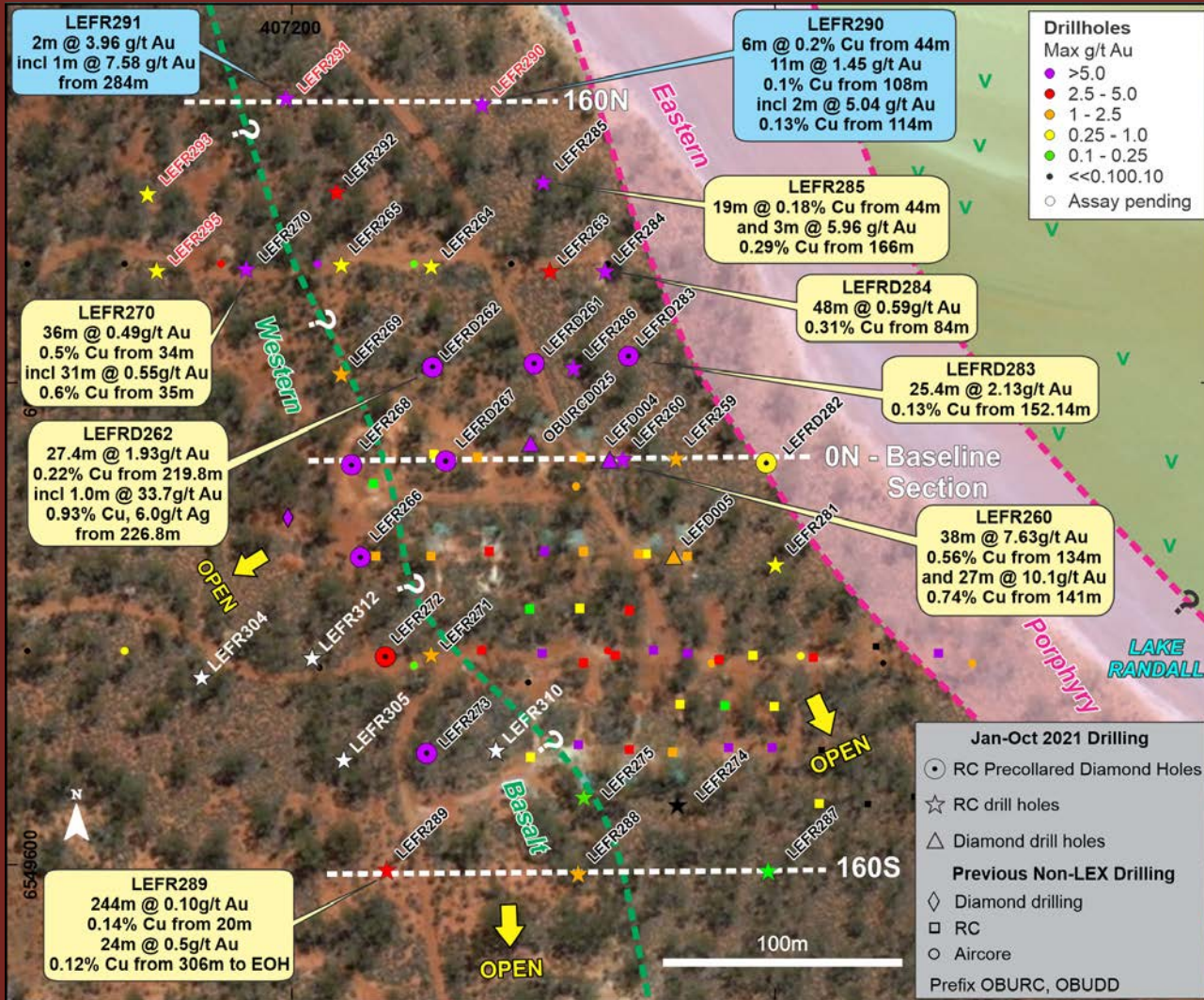
A 22-hole combined RC and diamond drill program was completed in Jan-Feb 2021 principally targeting the northern and down dip extensions to the Burns system outlined by the previous explorer. Two holes (LEFR259 & 260) evaluated the eastern side of the magnetic anomaly *



*LEX ASX release Outstanding High-Grade Gold and Copper Mineralisation Intersected at Burns: 23 February 2020

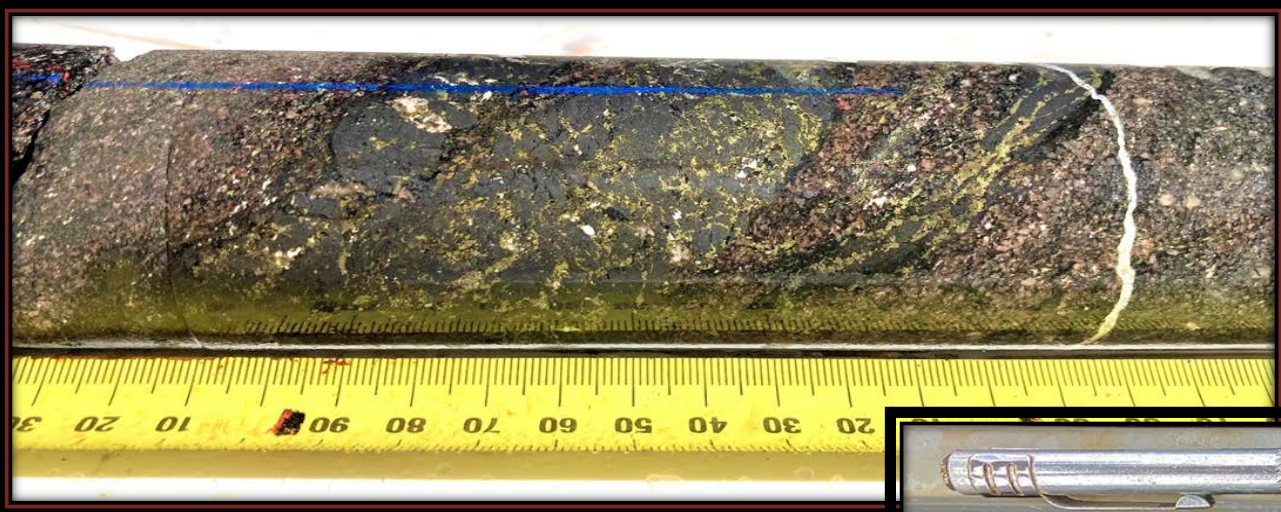
Burns – Phase 2 -Baseline Program

A 5 -hole diamond drill program evaluated the Eastern Porphyry on the Baseline drill section*. Four additional diamond drill holes drilled on the adjacent 40N and 40S sections.



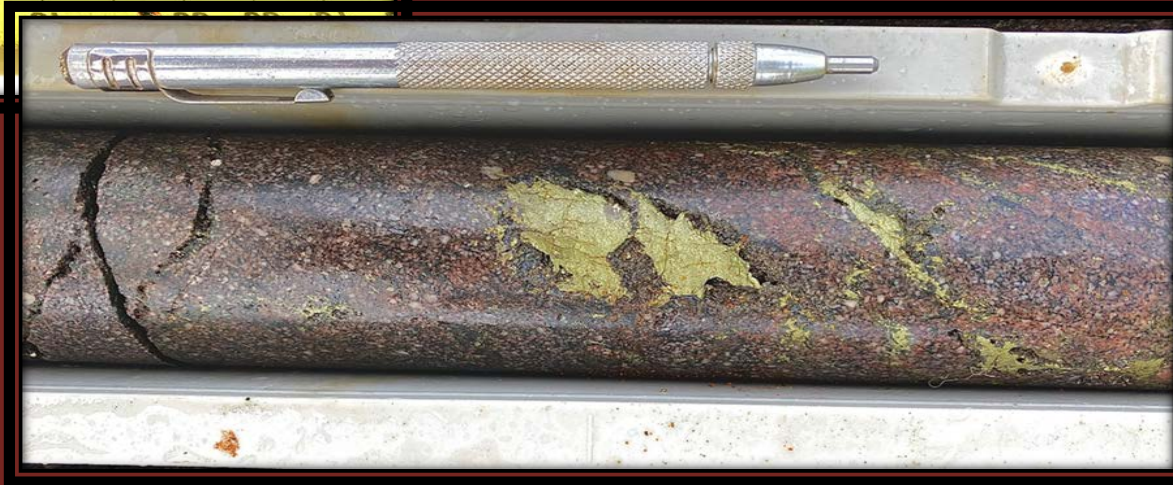
*LEX ASX release Burns Update-Cu-Au mineralisation confirmed on 0N section, step out drilling extends system: 2 August 2021

Burns – Unique mineral assemblage



OBURCD025- 222.35m-222.8m diorite porphyry with a magnetite vein & chalcopyrite. (1.5g/t Au & 0.55% Cu)

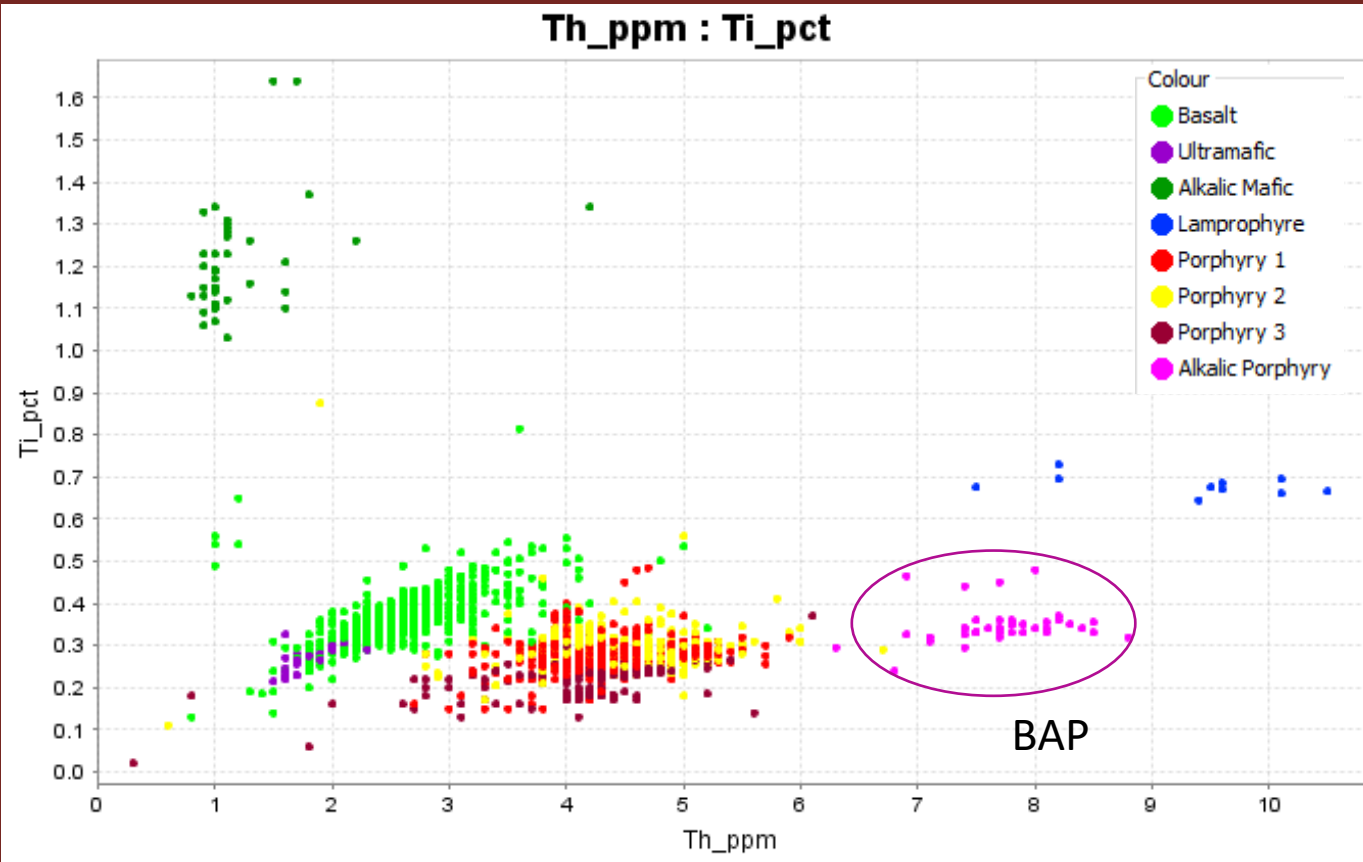
OBURCD025 -- 231.37m-231.6m diorite porphyry- blebby chalcopyrite (4.61g/t Au & 1.1% Cu)



LEFRD267 interval 301 – 301.3m showing chalcopyrite in association with a gypsum magnesite vein in basalt. (9.92g/t Au and 2.3% Cu). Gypsum vein contains visible gold.

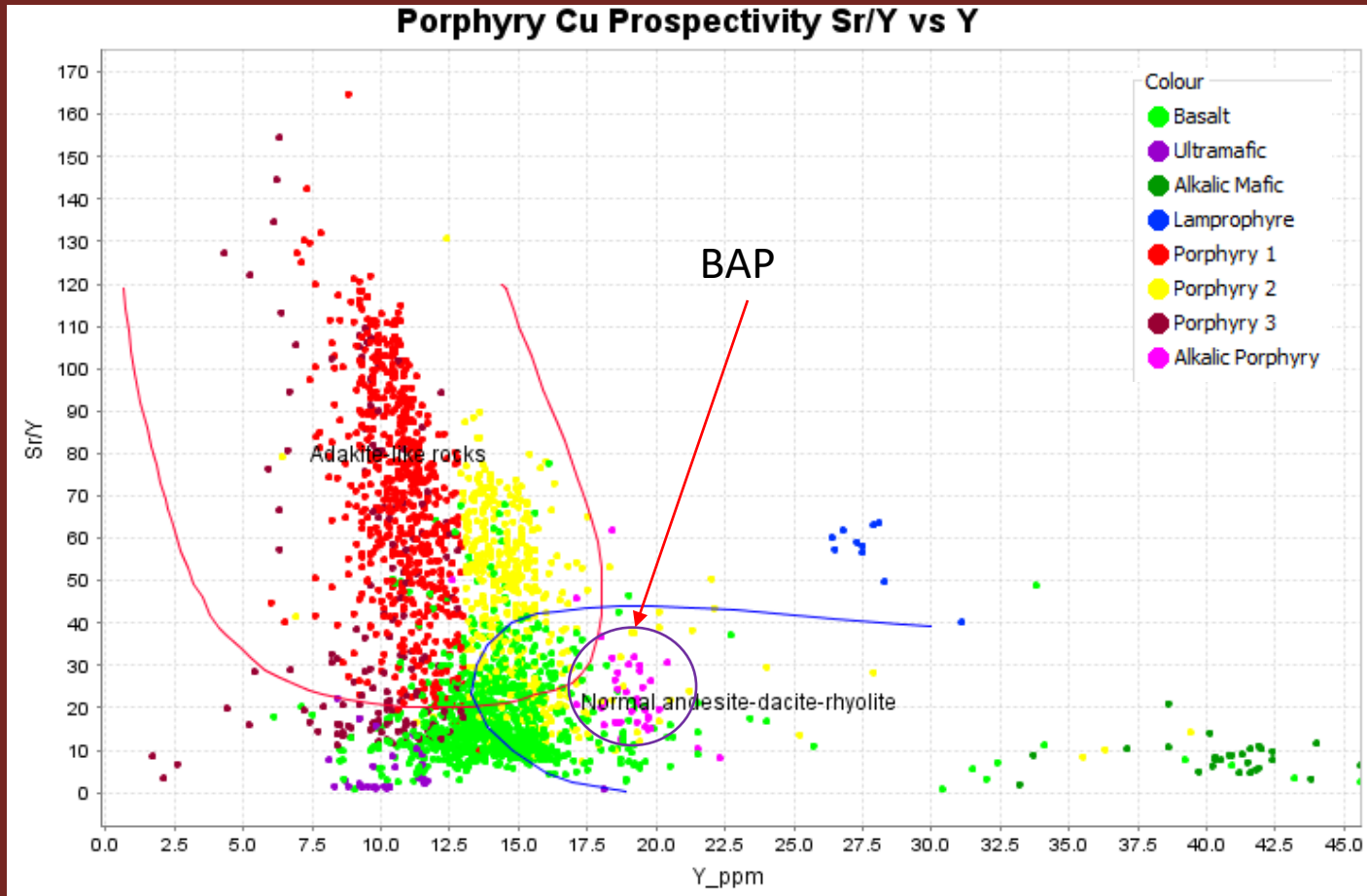


Burns Lithochemochemistry



- 4-Acid digest geochemistry allows differentiation of rock types (Baseline diamond core)
- High Th basalt – close match with Paringa type basalts
- Alkalic mafic – high Ti, P, Zr, Nb.
- Lamprophyre – high P, Th, Zr, Nb.
- Diorite porphyries – suite of 3 texturally and geochemically distinct intrusives
- Alkalic porphyry (BAP) – enriched in REE's, Nb, Zr, P.

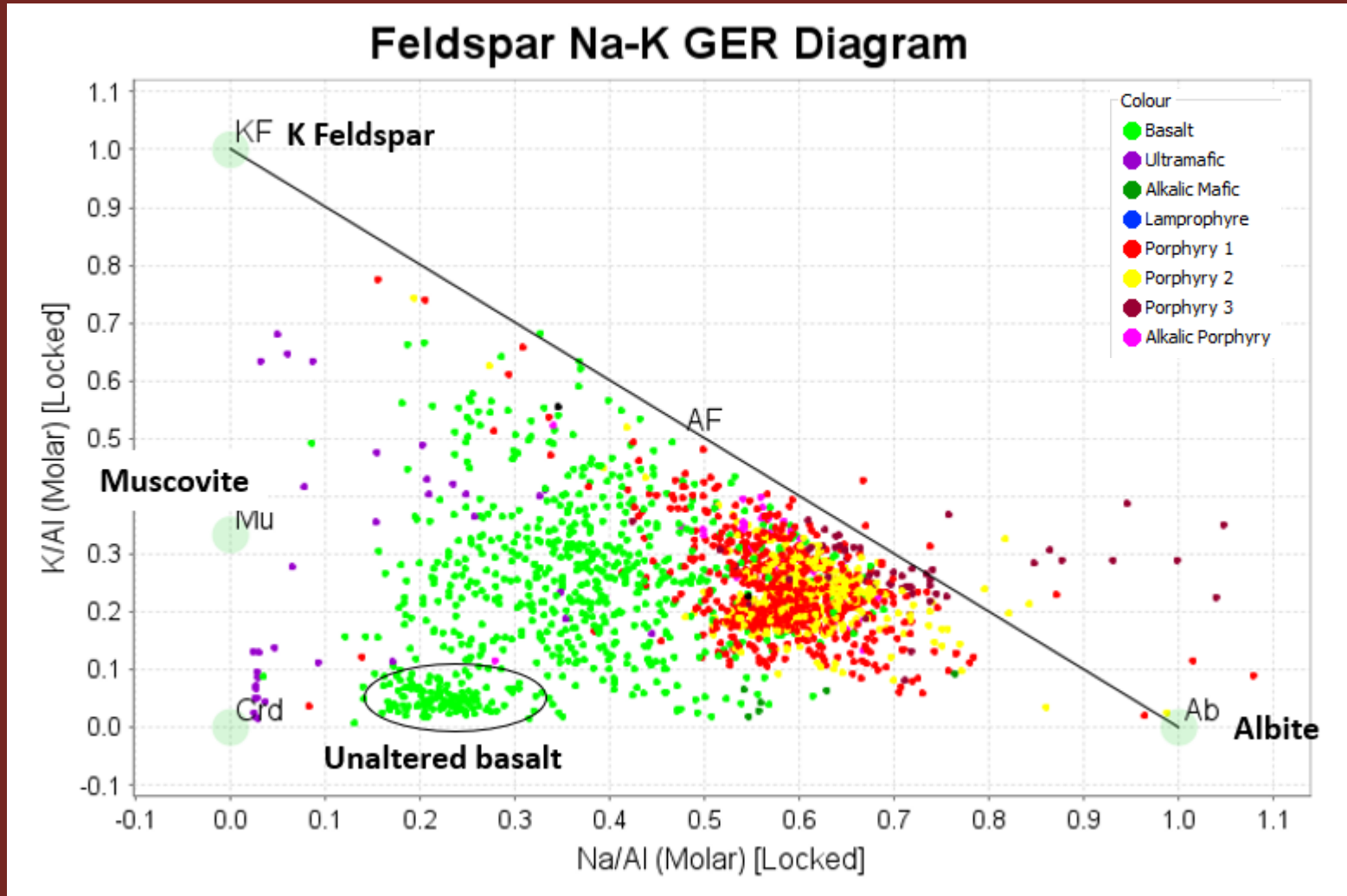
Burns Diorite Suite



- BP1, BP2, BP3: (Sanukitoids) Alkalic magmas with “Adakitic signature”. High Sr/Y suggests limited fractionation of plagioclase
- BAP: distinctly more alkalic (REE’s, Nb, Zr, P), flow banded/trachytic texture
- Burns Intrusion: Monzodiorite, large alkali Fsp (orthoclase) phenocrysts

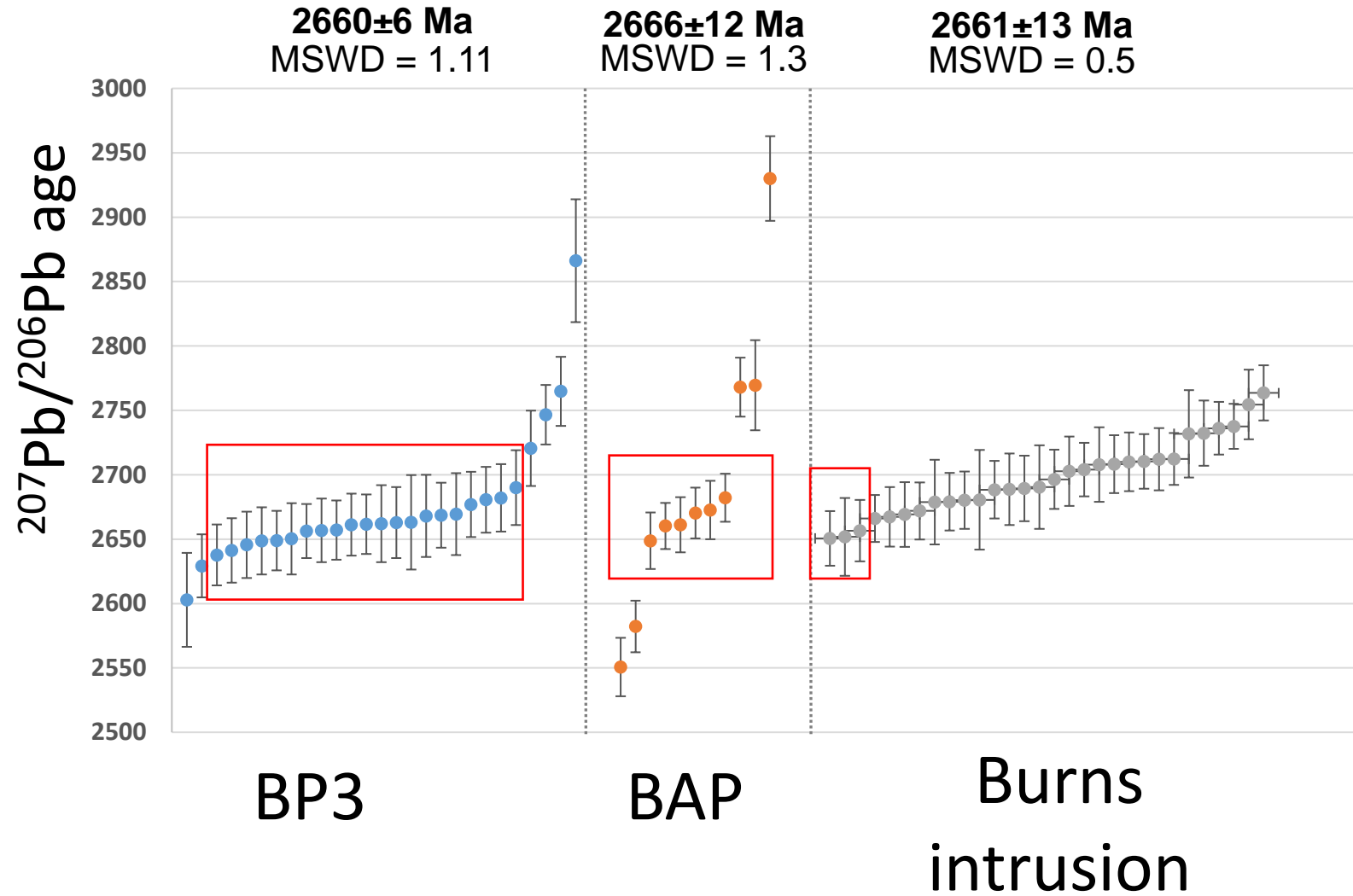


Burns Alteration



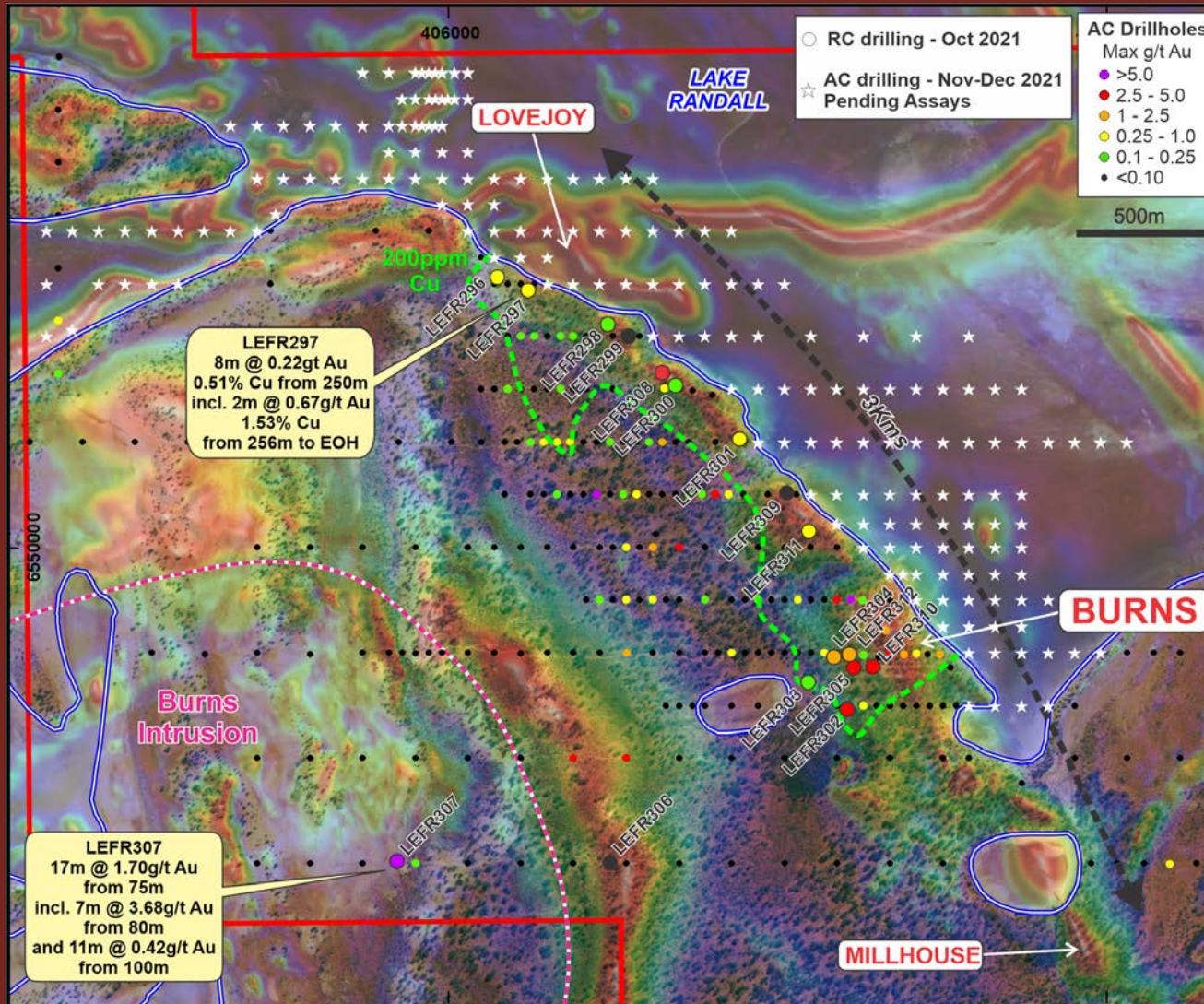
- Burns Diorites are alkali rich and hydrous
- Significant addition of K and Na to the basalts – extensive biotite alteration

Burns U-Pb zircon geochronology



Burns-Expanded Program

Limit of geochemical data is restricted to “onshore” drilling. A large program of priority drilling is underway in Lake Randall to define the limits to the system.



- Multiple magnetic anomalies now recognised along a 3000m corridor coincident with a +200ppm Cu anomaly
- A Stage 1 17 RC hole drill program completed as a proof-of-concept evaluation of each magnetic anomaly
- LEFR297 on the edge of the Lovejoy anomaly, intersected altered diorite host rocks and ended in 1.5% copper mineralisation
- Single RC hole LEFR307 confirms gold mineralisation in Burns Intrusion
- Stage 2 aircore drilling program now underway in Lake Randall

Burns –The Story So Far



- Varying mineralisation styles and porphyry host point to a **large, multistage, intrusion related Au Cu mineral system at Burns** defined over an area of 200m east-west and 300m north-south extent and growing
- Key Characteristics & Observations
 - Four diorite intrusions recognised and characterised as sanukitoids
 - Initial geochemical data groups Au Cu and Au only mineralisation domains suggesting multiple events
 - Wide alteration zone with eastern and northern extents yet to be defined under Lake Randall
 - Cu and Au mineralisation hosted by diorite and basalt
 - Magnetite veins common within both diorite and basalt, containing either chalcopyrite or pyrite.
 - Common mineral species include Chalcopyrite, Pyrite, Molybdenite, Chalcocite, Digenite, Native Copper
 - Current eastern limit to system-deformed basalt

THANK YOU

Contact

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