DUKE EXPLORATION

ASX ANNOUNCEMENT | ASX: DEX Media Release

19/05/2022

BUNDARRA GEOPHYSICAL DATA SYNTHESIS GENERATES NEW COPPER TARGETS

Duke Exploration (ASX:DEX) ("**Duke**" or "**the Company**") is pleased to announce receipt from Mr. Leigh Rankin (GeoInterp) of a comprehensive geophysical data synthesis and re-interpretation of the geological framework and structure of the Bundarra Intrusive Complex ("BIC"). Mr Rankin's report ("Geointerp Report") provides an understanding of potential copper-bearing fluid pathways that were previously unrecognised, and that may indicate the possible source/s of copper at the BIC.

KEY POINTS

- The structural interpretation has further strengthened the current targeting model and highlighted multiple potential fluid pathways and prospective copper mineralisation sites;
- Right lateral wrenching along a NE trending transfer zone key to BIC emplacement;
- Reactivation of this structure appears to be controlling emplacement of copper mineralisation;
- Detailed interpretation of the magnetic data shows composite intrusive nature of the BIC;
- New structural and geological interpretation of BIC based on interpretation of all major available geophysical datasets.

Duke commissioned Mr. Leigh Rankin, a well-regarded industry expert, to undertake a synthesis of the available Queensland Geological Survey and Duke geophysical data to produce a geological and structural interpretation of the Bundarra Project area.

The geophysics synthesis will augment ongoing exploration targeting from data such as Cu-in-soil anomalies, geological mapping, drillhole intersections and historic mining sites. These interpretations have leveraged our understanding of the controls on copper mineralisation at Bundarra significantly and will be integrated with our ongoing geological and drilling programs.

Figure 1 highlights the GeoInterp Report geological and structural interpretations. Note that the results presented in the GeoInterp report and accompanying maps are interpretive and subject to revision as new data and ideas are compiled.

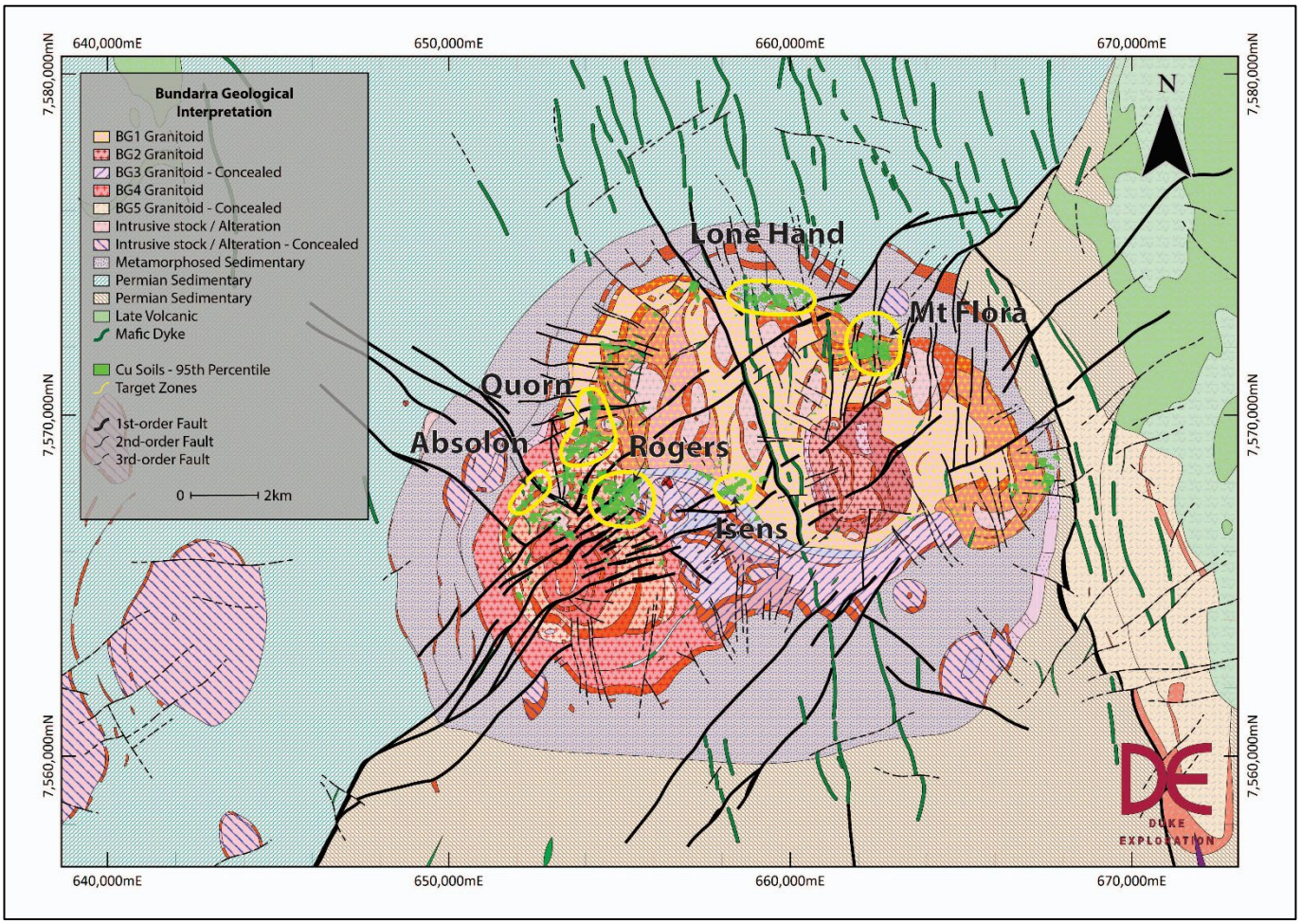

Figure 1: Dukes current targets with newly interpreted geology and structural framework of the BIC (after Rankin, 2022).

Commenting on the Geophysical studies results – Philip Condon, MD:

"We are very excited to receive Mr Rankin's geophysical synthesis report at this juncture of our exploration program. Our plan was to bring this report together with the previous diamond drilling results and the results of the current RC drilling activity, which we are now finally beginning to receive, in order to further refine our targeting of larger scale copper mineralisation. This report delivers that and in addition we have gained a new understanding of potential copper fluid pathways and fluid sources, which has never been seen before by any previous explorers. As a result both existing target areas of focus have been confirmed like Rogers and Isens, and new and exciting areas have been added, all relating to potential copper fluid pathways. This is where our revised strategy starts to deliver results and I thank our loyal shareholders for their ongoing support."

This announcement has been authorised for release by the Board.

Philip Condon
Managing Director
p.condon@duke-exploration.com.au
Ph +61 417 574 730

Toko Kapea
Chairman
t.kapea@duke-exploration.com.au
Ph+64 27 534 2886

TECHNICAL INFORMATION

BIC NEW GEOLOGICAL INTERPRETATION OF EXISTING/HISTORIC GEOPHYSICAL DATA

Duke's Bundarra project is located 130 km southwest of Mackay in Central Queensland, comprising 3 EPM's and covering the BIC (Figure 2).

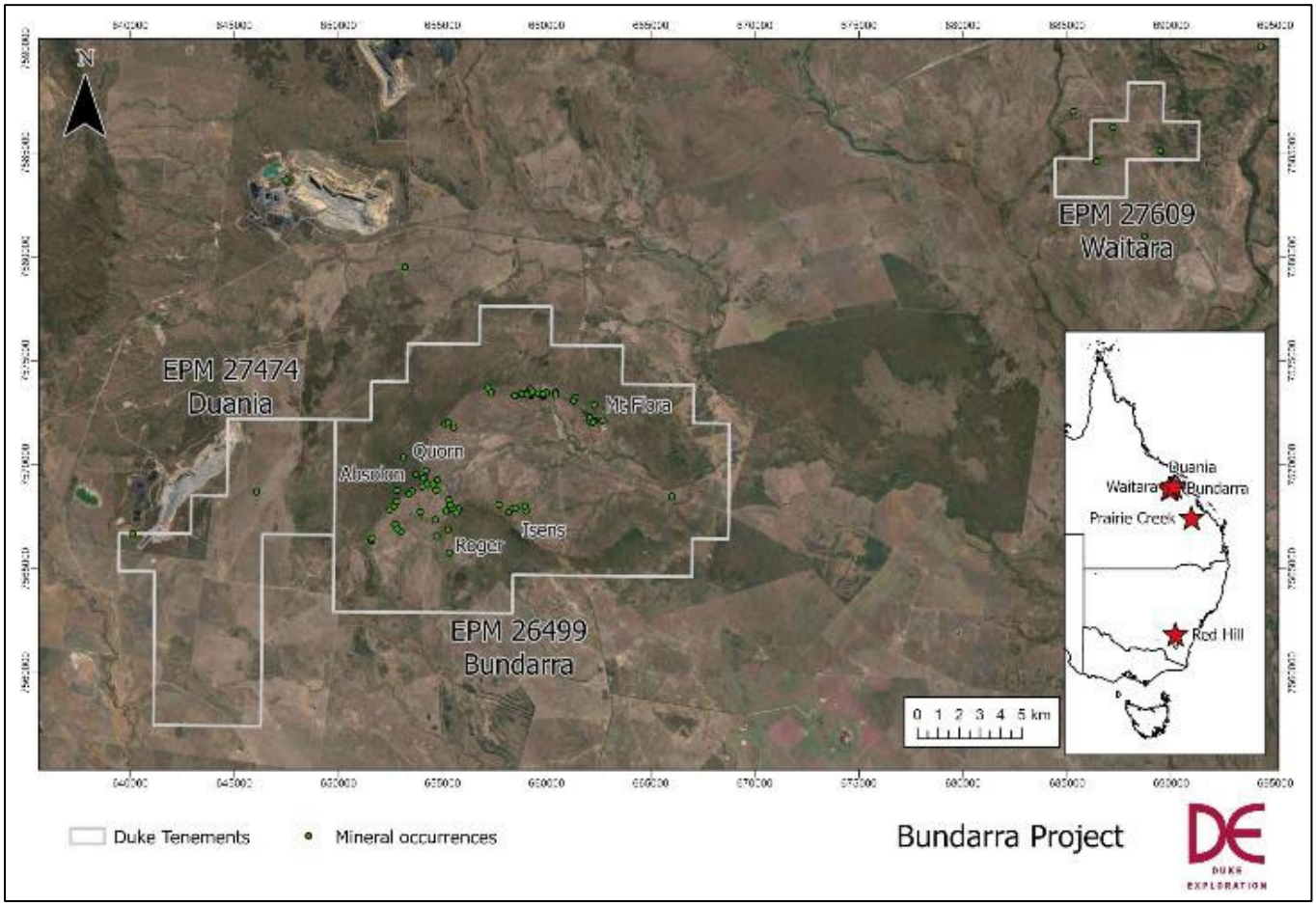

Figure 2: Location of the Bundarra Copper project.

The Bundarra copper project has advanced significantly over the last two years with exploration targets being generated from the integration of various geoscience datasets (viz geological mapping, remote sensing analysis, multielement soil geochemistry and geophysical surveys). Initial drill phases have delineated a JORC compliant Inferred mineral resource at the Mt Flora prospect of 16 Mt @ 0.5% Cu and 6 g/t Ag (Refer: DEX 29 June 2021 Mt Flora Maiden Inferred Mineral Resource).

DEX is currently prioritising areas for resource drilling from the targets generated from ongoing geological, multi-element soil geochemistry and geophysical studies and interpretations. To date the program has:

- Completed 5 diamond drill ("DD") boreholes into selected targets to collect geological data to confirm the interpreted geometry of any bed rock mineralisation and understand the geology, geochemistry, and the petrophysics of any mineralisation intersected;

- Completed 25 reverse circulation ("RC") scout drilling boreholes (ASX release in preparation) assessing the endowment potential for a number of different targets;

- Completed a synthesis of the geophysical surveys completed to date on the property (Figure 2) which is presented below.

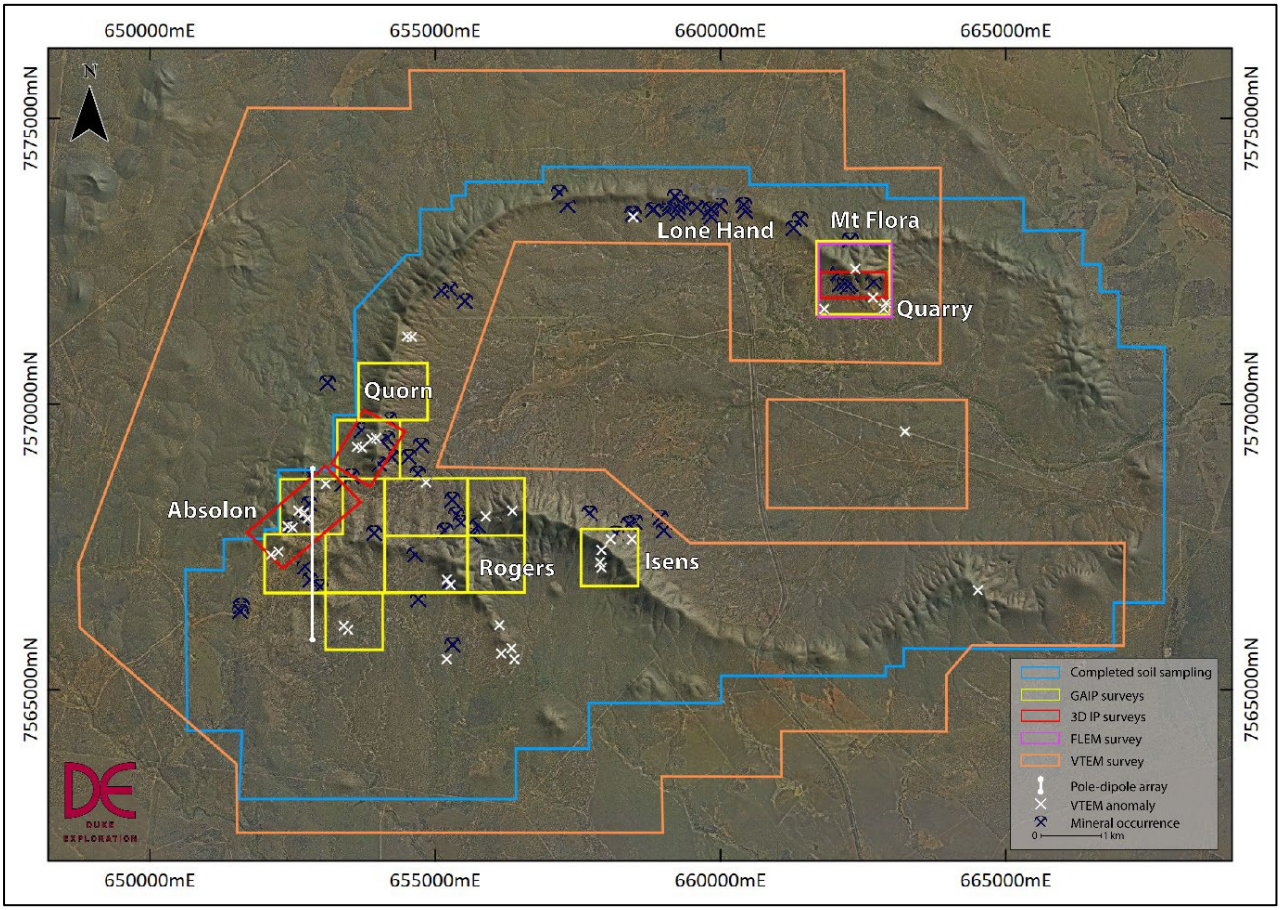

Figure 3: Extent of Geophysical surveys on the Bundarra Project area.

Key outputs of the geophysical synthesis have been an interpretation of the underlying geological units making up the BIC and the structural framework controlling the geology and mineralisation. The Rankin Report generated a series of geological interpretation maps (at 1:30 000 scale) for the BIC and surrounding area from a combination of Government airborne magnetic and Duke detailed airborne geophysics (magnetics, radiometrics and VTEM) and geological datasets (drill core and soils geochemistry, mapping etc.).

Figure 4 shows the revised interpretation of the distribution of known and interpreted BIC granitoids and surrounding hornfelsed Permian age sediments.

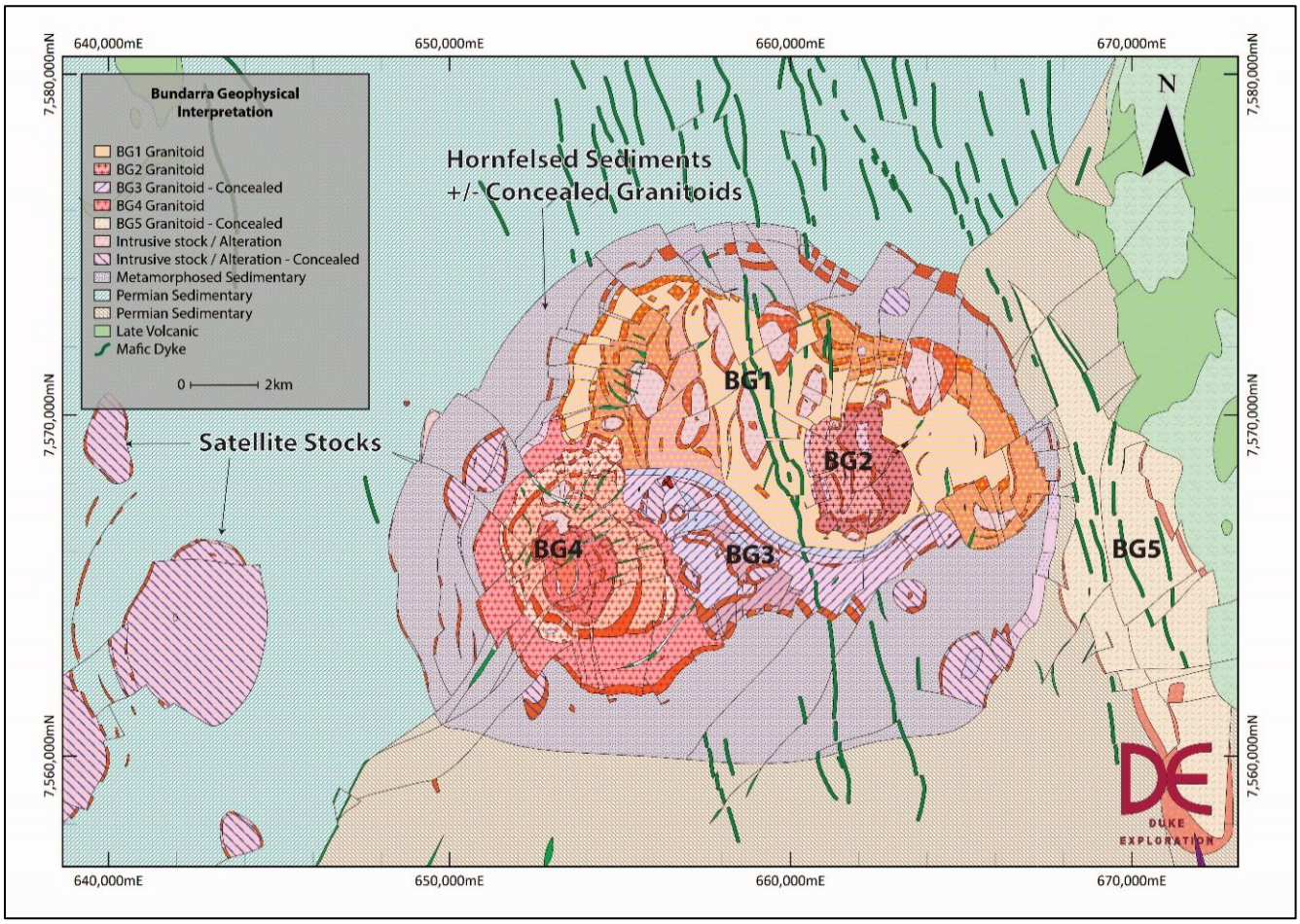

Figure 4: Distribution of known and interpreted BIC granitoids and hornfelsed sediments (after Rankin, 2022).

The BIC (as interpreted principally from magnetic data) comprises four primary plutons:

- Bg1 – the largest pluton – trending E-W;
- Bg2 – a N-trending subelliptic, and vaguely magnetically zoned pluton in the east of Bg1 (and directly south of the Mt Flora mineralised system);
- Bg3 – a concealed pluton immediately southwest of Bg1; and
- Bg4 – a sub-circular, and strongly zoned pluton southwest of Bg1.

The interpreted structural elements and map are shown in Figure 5. The key aspect of this interpretation is recognition of a right-lateral (ie dextral) wrench couple within the regional NE transfer fault system (Figure 5). The structural framework comprises:

- a major (1st-order) NE- trending structural corridor, comprising at least 2 major fault zones (NE-1 & NE-2 FZ), plus a third NE-trending structural corridor (NE-3 FZ) - to the southeast;
- at least two NNW-trending structural corridors (reflecting possible deeper-seated orogen-parallel basement/basin fault zones) – parallel to a late-stage dyke swarm;

- several lower-order N-S trending fault zone / structural corridors, including a significant corridor of mapped E-dipping reverse faults linking the NE-1 & NE-2 FZs, and coincident with the Mt Flora mineralisation;

- Two NW-trending structural corridors comprised of discontinuous zones stepping across the 1st-order NE-trending structures; and

- a broad, but strike-limited EW-structural corridor comprising multiple faults and possible localised addition of magnetite alteration in the western sector of Bg1.

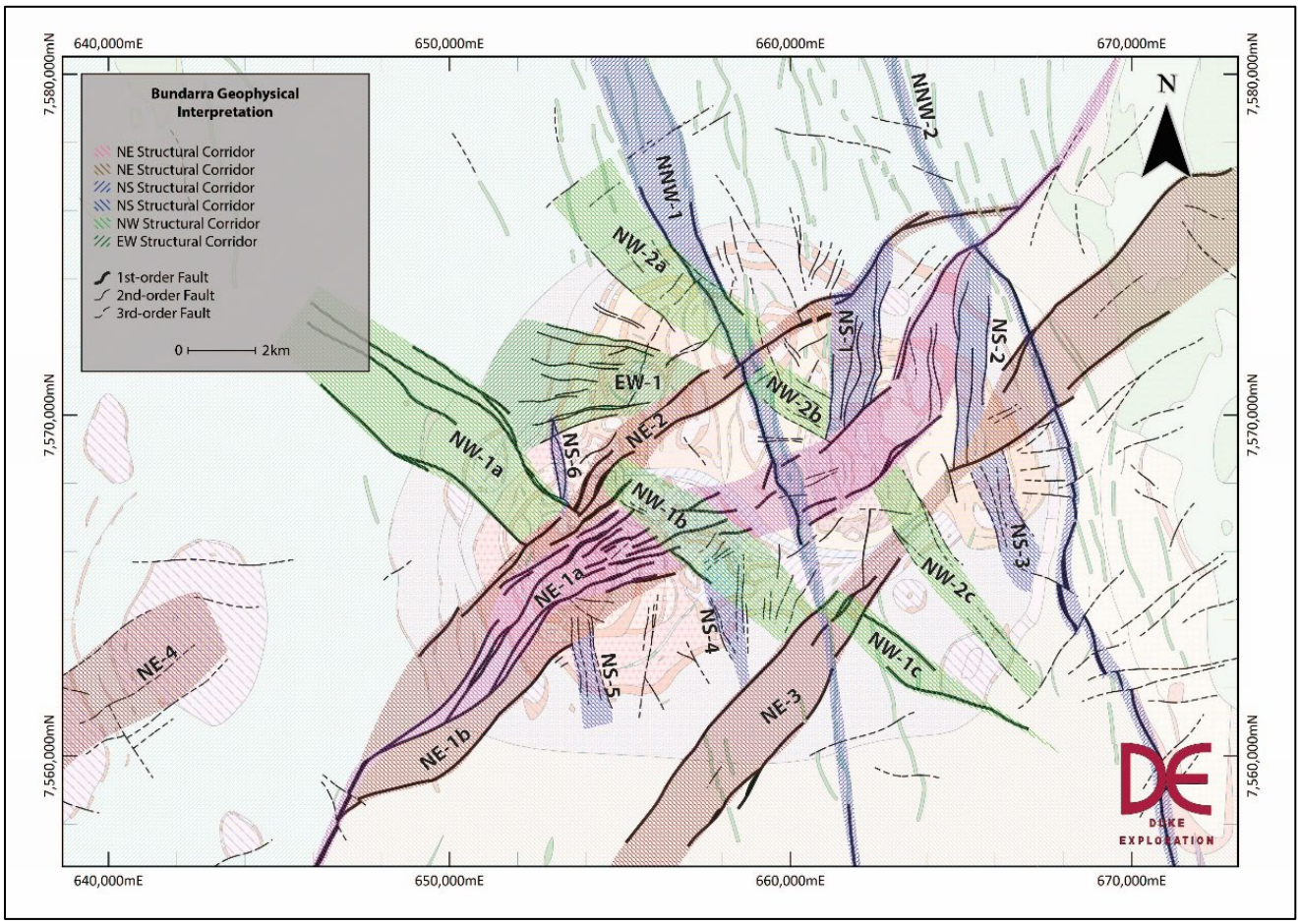

Figure 5: BIC structural framework (after Rankin, 2022).

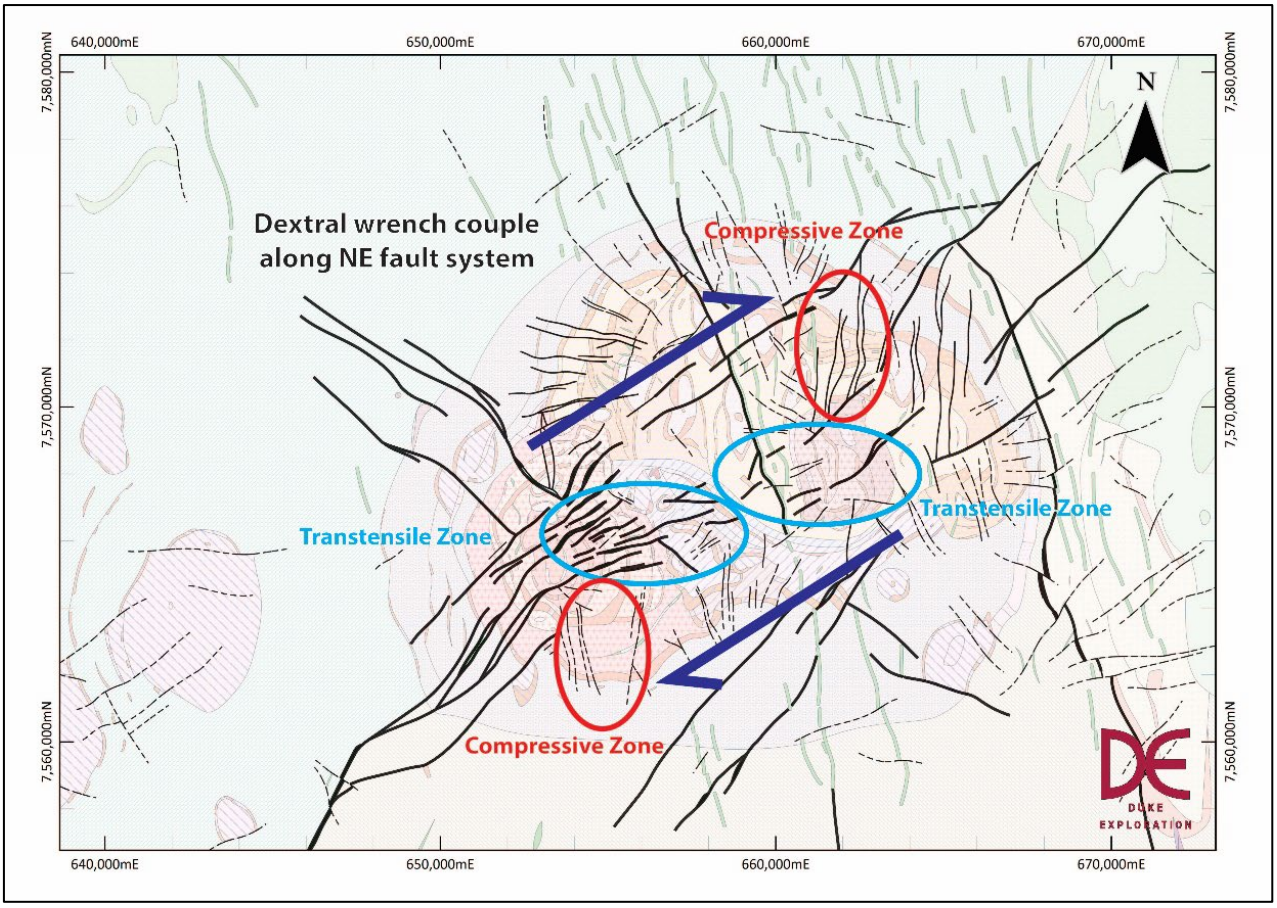

Figure 6: Interpreted BIC structural and geological framework (after Rankin, 2022).

Implications for the geological evolution of the BIC

The NNW-1 & NNW-2 Shear corridors are likely to have developed as basin-parallel extensional faults during early opening of the Bowen Basin. These may have been reactivated as extensional structures during Cretaceous emplacement of the BIC, but do not appear to have any significant control on orientation of the main Bg1 pluton.

The NE-1 FZ (and associated structures) may have developed within a transfer zone during development of the Bowen Basin, but with limited interaction between this and the primary NNW-trending structures.

The E-W elongation of Bg1 suggests emplacement along an E-W dilation structure (possible orthogonal transfer fault in the orogenic belt either during E-W compression or a relaxation phase). This would suggest (potentially weak) dextral wrenching along the NE-1 and NE-2 FZs during intrusion. Weak dextral wrench, associated with the major ENE-bend in the NE-1 FZ resulted in emplacement of the Bg2 & Bg4 plutons along the more extensional bend. This is supported by observations in core and at surface of intrusive rocks with and without a deformation fabric.

Development of the NS-1 SC linking zone (E-dipping reverse faults) may have occurred during this phase of weak NE-dextral wrench, and in part as accommodation of emplacement of the Bg2 pluton to the south. It is possible that the minor zone of N-S faulting intersecting the southern margin of Bg4 in the southwest of the BIC could be another corresponding compressive linking zone.

Implications for Cu mineralisation targeting

The structural interpretation has provided a framework for testing faults, breccias and related conduits as controls to the emplacement of copper mineralisation. A protocol for testing target generation has been developed utilising the following criteria:

- Zones of structural complexity (structural ground preparation and development of fluid migration pathways);
- Coincidence or proximity to key 1st- and/or 2nd-order structural corridors;
- Potential host lithology; and
- Occurrence of potentially significant alteration.

Duke is in the process of integrating the GeoInterp Report into its ongoing exploration program (Figures 7 and 8). District-scale zones of interest for copper mineralisation are to be field checked. This work will include detailed structural geological mapping traverses, plus more detailed soil and rock-chip geochemical sampling, and potentially scout RC drilling.

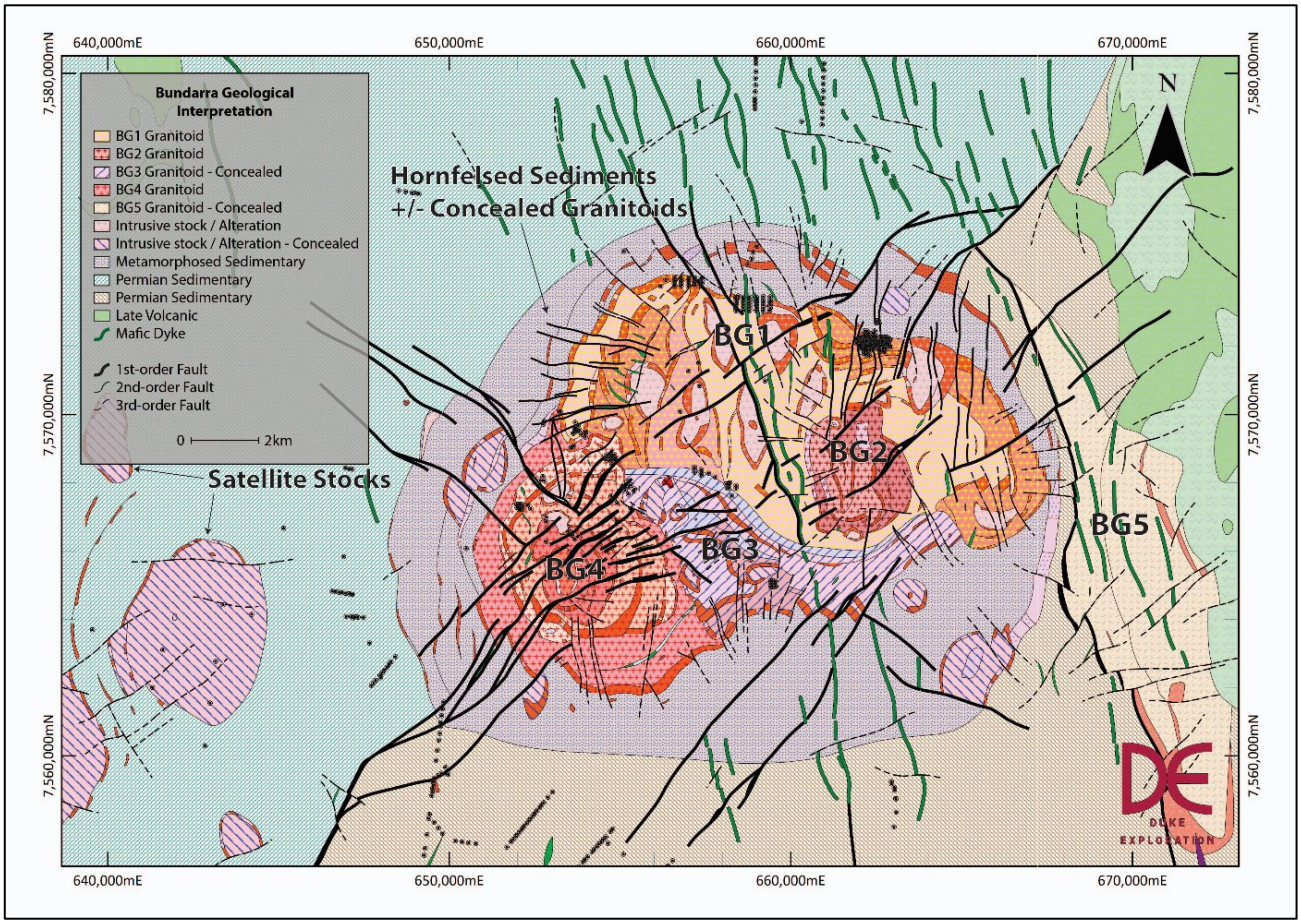

Figure 7: New geological and structural interpretation (after Rankin, 2022).

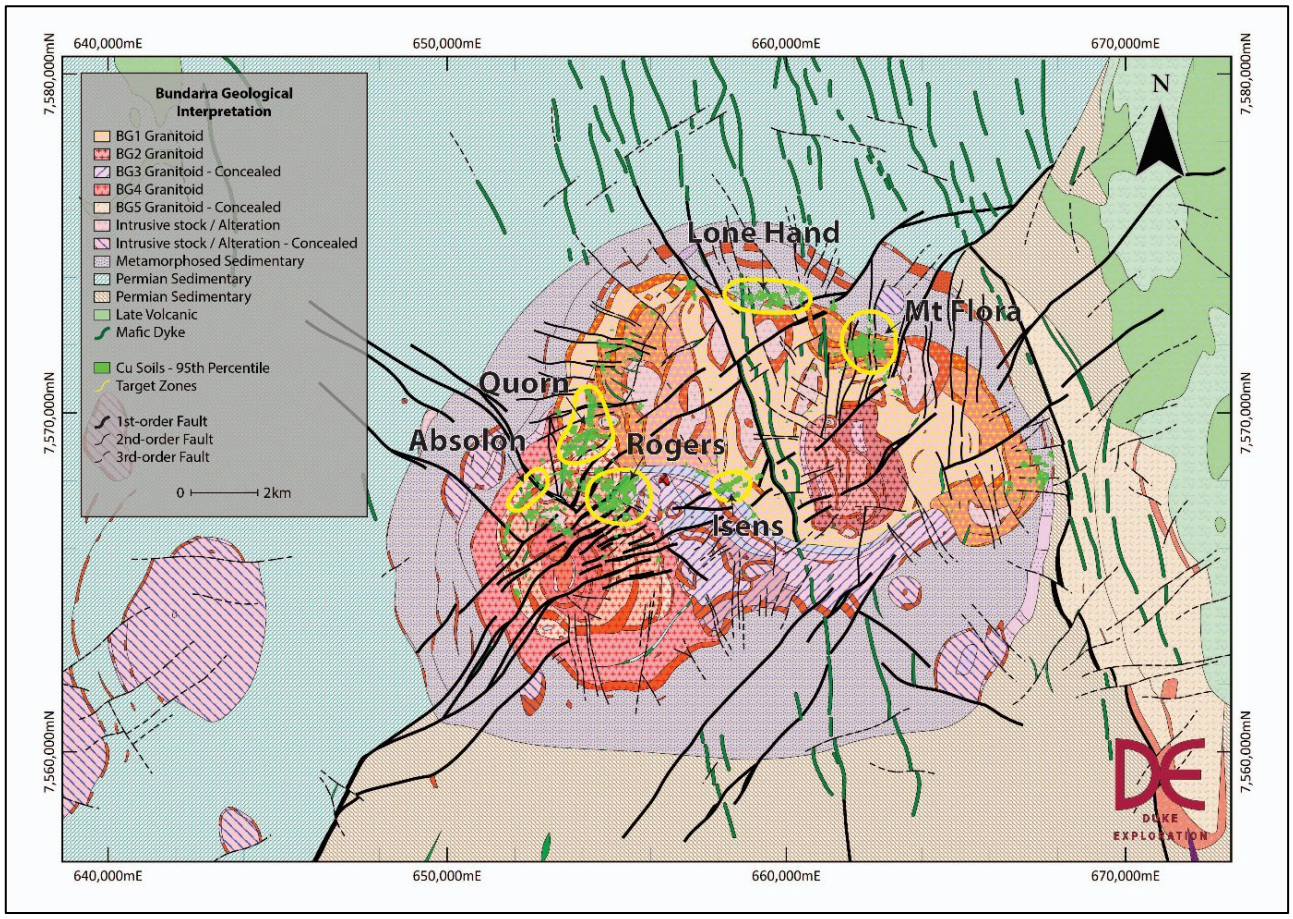

Figure 8: Duke exploration targets and Cu-in-soils geochemistry with new geology and structure.

Summary findings of the interpretations:

- The primary Cretaceous (122-130 Ma) BIC comprises 4 main polyphase plutons (Bg1-Bg4), with potential concealed, variably magnetic plutons and satellite stocks to the east (trending NNW along a possible early basin-parallel fault zone) and southwest (concealed and associated with localised domal folding of Blenheim Fm (Pb) sediments). The Bg2 & Bg4 plutons are sub-circular, magnetically zoned (particularly the latter), and appear potentially as a second phase of emplacement into the Bg1 & Bg3 plutons;

- The BIC also includes numerous small-scale, sub elliptical to subcircular (and occasionally magnetically zoned) bodies; these may include syn- to post-primary- phase intrusive stocks (including possible porphyries), and hydrothermal alteration zones (including possible breccias etc);

- The potential subsurface extent of the main plutonic complex below hornfelsed Pb sediments has been highlighted in the magnetic interpretation; however, there are ambiguities as to whether some of the magnetic zonation in these areas lies within the granitoids, or in the overlying hornfelsed sediments (a combination of both is possible;

- The BIC has been emplaced along a broad NE-trending structural corridor (NE-1 FZ), with the Bg2 & Bg4 plutons emplaced along a major ENE-trending potential bend within this main fault system The NE-trending structural corridor may represent an earlier Palaeozoic basement-basin fault, reactivated during and post- emplacement of the BIC. The faults are partially obscured by the intrusions;

- The main NE-1 and NE-2 FZs are associated with a major ENE-trending horsetail splay of fault strands (transtensile zone) intersecting Bg4, and a N-trending corridor of reverse faults acting as a linking zone between the main NE-faults. Notably the N-trending structural corridor is coincident with the Mt Flora Cu ;

- Other key structures in the district include a series of N-S, NW-SE and E-W trending structural corridors; these may represent deeper-seated, long lived fault zones, with potential to have influenced emplacement of 2nd order intrusions and/or hydrothermal alteration (and copper mineralising) fluids.

The new geological and structural interpretations are being integrated into Dukes exploration program. A number of zones of interest are to be validated and ground checked for potential Cu, Cu-Au mineralisation (porphyry, hydrothermal breccia, polymetallic vein etc styles). These targets are in the process of being prioritised based on lithological, structural and (where available) alteration criteria (from the available geophysical and geochemical datasets).

Reference: Rankin, L. 2022: Geological interpretation of the Bundarra Intrusive Complex from detailed airborne geophysics and geological data.

GeoInterp Confidential Report 2022-06 for Duke Exploration Ltd, Queensland April 2022

Competent Person Statement

The information in this report that relates to Exploration Results is based on information supplied by Duke and interpreted by Mr Leigh Rankin BSc (Hons), MAIG, MSEG, MGSA, RPGeo (Mineral Exploration, Geophysics, Regional Geology) Consultant Geologist. Mr Rankin has consented to the release of this summary of his work.

The information in this report that relates to Exploration Results is based on information reviewed by Dr James Lally, a Competent Person who is a Member of The Australasian Institute of Mining and Metallurgy and a Member of The Australian Institute of Geologists.

Dr Lally is employed by Duke Exploration Pty Ltd as a consultant through Mining Associates Pty Ltd. He has over 25 years of experience that is relevant to the style of mineralisation and type of deposit under consideration, and to the activity being undertaken, to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Dr Lally consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.