WINDFALL GEOTEK

ARTIFICIAL INTELLIGENCE
ENHANCING PRECISION TARGETING

SINCE 2005

PROJECT WORK SUMMARY

Cadia Au-Cu Porphyry Mining Camp
Internal Project
New South Wales
Australia

September, 2024

ZERO-IN
ON HIGH POTENTIAL TARGETS

WORK PROPOSAL SUMMARY

WINDFALL GEOTEK proposes to use to use its proprietary AI System to develop gold and copper exploration targets over CADIA AU-CU PORPHYRY MINING CAMP INTERNAL PROJECT located in the Cadia Valley, about 20 kilometers south of the regional city of Orange, New South Wales, and approximately 200 km west–northwest of Sydney, Australia (Figure 1).

Geological Context

The CADIA AU-CU PORPHYRY MINING CAMP is a series of large underground and open-cut gold-copper mines developed throughout the 1990s and is a major employer in the region with an expected lifespan of several decades. Cadia is the second largest open cut mine in Australia after the Super Pit at Kalgoorlie. Large mineral deposits are also being uncovered from the more recently developed Ridgeway underground mine and Cadia East underground mine, adjacent to the Cadia Open Cut Mine. The mine is operated by Newcrest.

“The Cadia East, Cadia Extended, and Ridgeway deposits are considered to be examples of alkalic porphyry gold–copper-style mineralisation. The Big Cadia deposit is a skarnstyle occurrence. The Cadia deposits are located in the eastern Lachlan Fold Belt of NSW and formed within the intra-oceanic Macquarie Arc, a belt of Ordovician to early Silurian mafic to intermediate volcanic, volcaniclastic and intrusive rocks. Post-mineral deformation partially dismembered the district, thereby superposing different porphyry gold-copper systems as well as the host stratigraphy level.” (*CADIA OPERATIONS NEW SOUTH WALES, AUSTRALIA NI 43-101 Technical Report, 30 June 2020, NEWCREST MINING LIMITED*).

The basement rocks in the Cadia district are Ordovician siltstones and volcanic units of the Weemalla Formation. They are conformably overlain by andesitic to basaltic andesitic lithologies of the Ordovician Forest Reefs Volcanics. Silurian conglomerates, sandstones and siltstones (part of the Waugoola Group) cover large portions of the Ordovician volcanosedimentary succession. Tertiary basalts of the Canobolas Volcanic Complex cover the Palaeozoic rocks to the north and east of the district. Mineralization-related Ordovician to Silurian alkalic intrusions young eastwards across the Cadia Valley, with Ridgeway being the oldest deposit in the district and Cadia East the youngest.” (*CADIA OPERATIONS NEW SOUTH WALES, AUSTRALIA NI 43-101 Technical Report, 30 June 2020, NEWCREST MINING LIMITED*).

“The Cadia Intrusive Complex (CIC) consists of pyroxene diorite, monzodiorite and occasional pyroxenite in the west to monzonite, quartz monzonite and quartz monzodiorite in the east. The mafic, western portion of the CIC is interpreted to be separated from the eastern, felsic portion of the CIC by a major north–northwest-striking, west–southwest-dipping thrust fault, the Purple Fault. The Ridgeway Intrusive Complex (RIC) is located 2.5 km northwest of the Cadia Hill portion of the CIC, with the top of the RIC occurring about 500 m below surface. At least three intrusive stages were defined, of which the latter two have a clearly demonstrated temporal relationship with Ridgeway deposit alteration and mineralisation. The RIC comprises a vertically attenuated composite pipe of monzodiorite to quartz monzonite. It has horizontal dimensions of 200 x 100 m, is elongated along a northwest trending axis, and extends subvertically for at least 1 km. The Cadia East Intrusive Complex (CEIC) comprises a series of west–northwest- to west-striking dykes that dip steeply to the north. The top of the complex averages about 800 m below the surface. Dyke compositions range from monzodiorite and quartz monzodiorite to quartz monzonite.” (*CADIA OPERATIONS NEW SOUTH WALES, AUSTRALIA NI 43-101 Technical Report, 30 June 2020, NEWCREST MINING LIMITED)*

“The major regional structure is the 30 km long Werribee–Cadiangullong Fault Zone. Where the Werribee–Cadiangullong Fault Zone intersects structures related to the west– northwest-oriented Lachlan Transverse Zone, it forms a series of north–northwest- and northeast-trending thrust faults. This structural intersection appears to have controlled the location of the CIC and associated mineralisation. Newcrest identified more than 56 structures during production and development activities that influence the Cadia Valleywide structural setting, and therefore mine planning and caving operations. Underground mapping demonstrated that fault behaviour at the local scale can be highly complex, particularly for steeply-dipping structures.” (*CADIA OPERATIONS NEW SOUTH WALES, AUSTRALIA NI 43-101 Technical Report, 30June 2020, NEWCREST MINING LIMITED*).

Available Data

Public NSW MinView Database:

- 1991 Bathurst Magnetic-Radiometry Airborne Survey data at 50 m resolution (Figures 2 & 3)
- 191 239 drillhole assays from 14 778 drillholes for Au & Cu (Figure 4)
- 30 565 surface samples (rock chip) for Au & Cu (Figure 5)

Proposed AI Model

MODEL - 1: Cadia Au-Cu Porphyry Mag – Rad Model

Project Area: 15 616.70 sq/km

Model Resolution: 50 m

Total Variables: 400

Elements to identify: Au & Cu (thresholds to be determined)

Proposed Work

Step 1: Data Verification

- Review of all the geophysical, drillhole and surface samples data available in a digital format
- Ensure data characterize the similar geological context
- Verify the quality and quantity of the data for target generation

Step 2: Data Preparation

- Data prep. for magnetic, radiometry and topographic data
- Data prep. for primary magnetic and topography variables and derivative variables
- Compilation of variables dataset
- Compilation of training dataset using drillhole and surface samples gold and copper assays data

Step 3: Target Generation

- Use AI Proprietary method to perform high similarity gold and copper exploration targets

For further information or explanation, don't hesitate to contact WINDFALL GEOTEK.

Respectfully submitted

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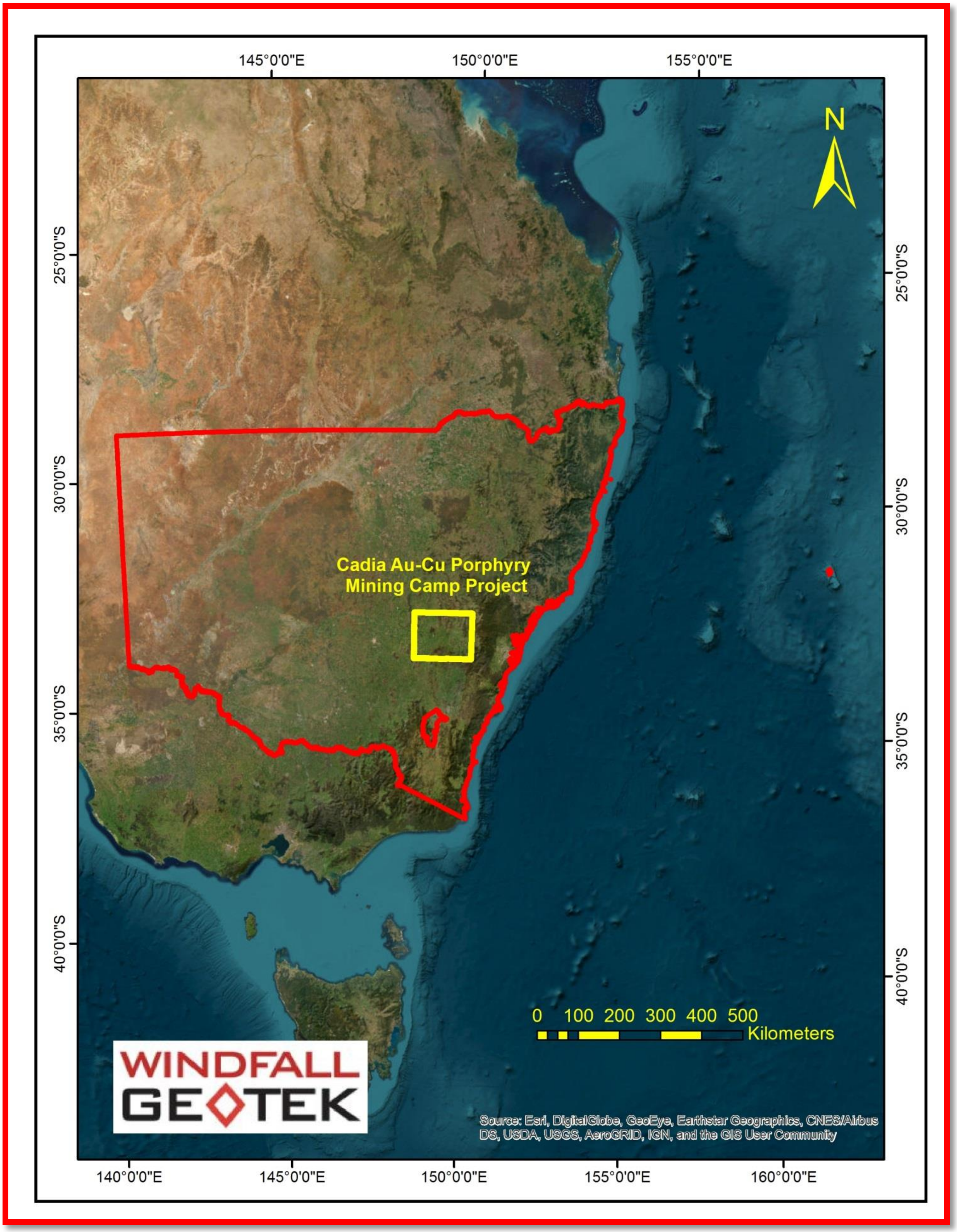

Figure 1: CADIA Au-Cu Porphyry Mining Camp Project Location

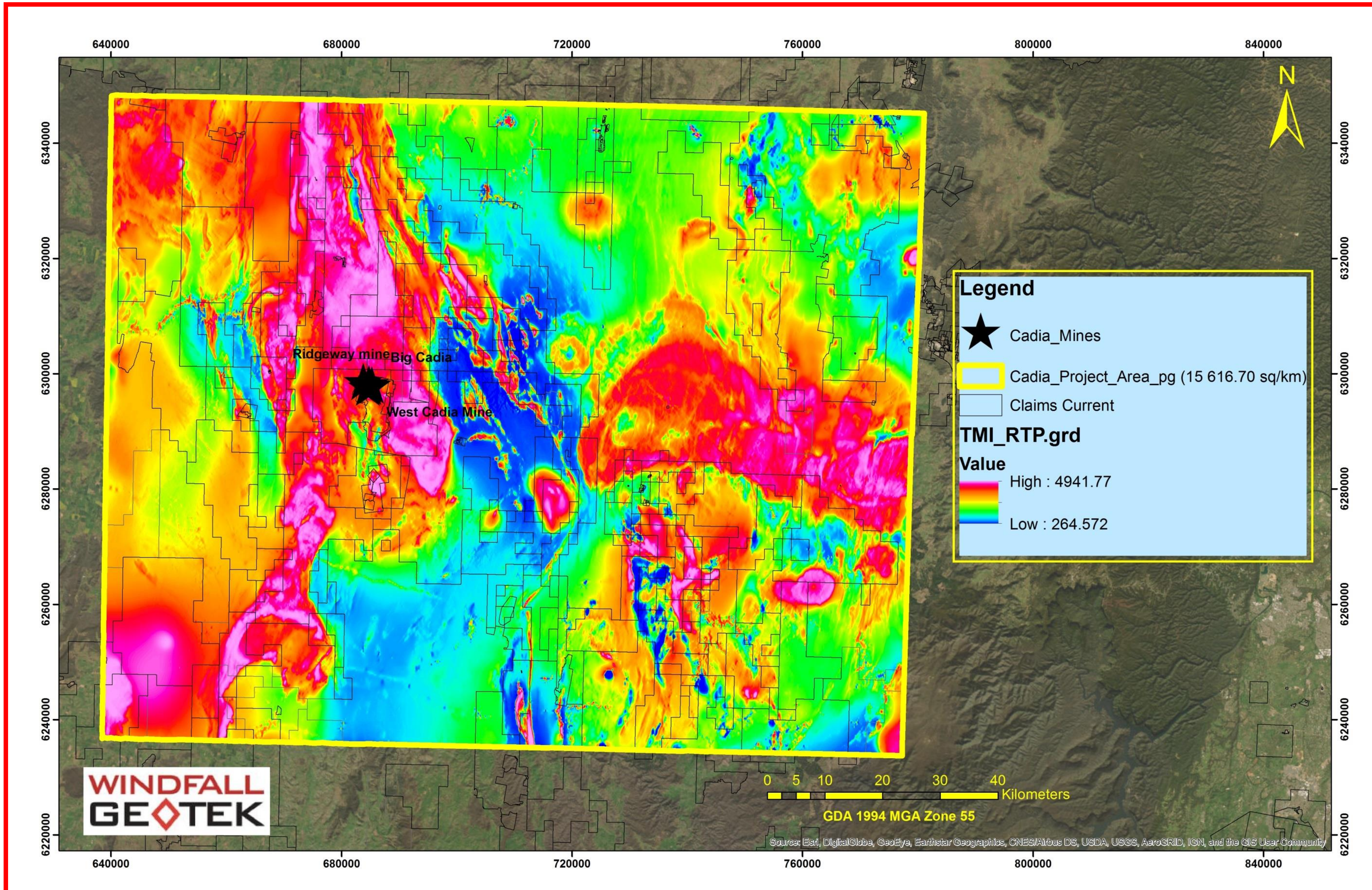

Figure 2: Magnetic data from 1991 Magnetic-Radiometry Bathurst Survey data at 50m resolution

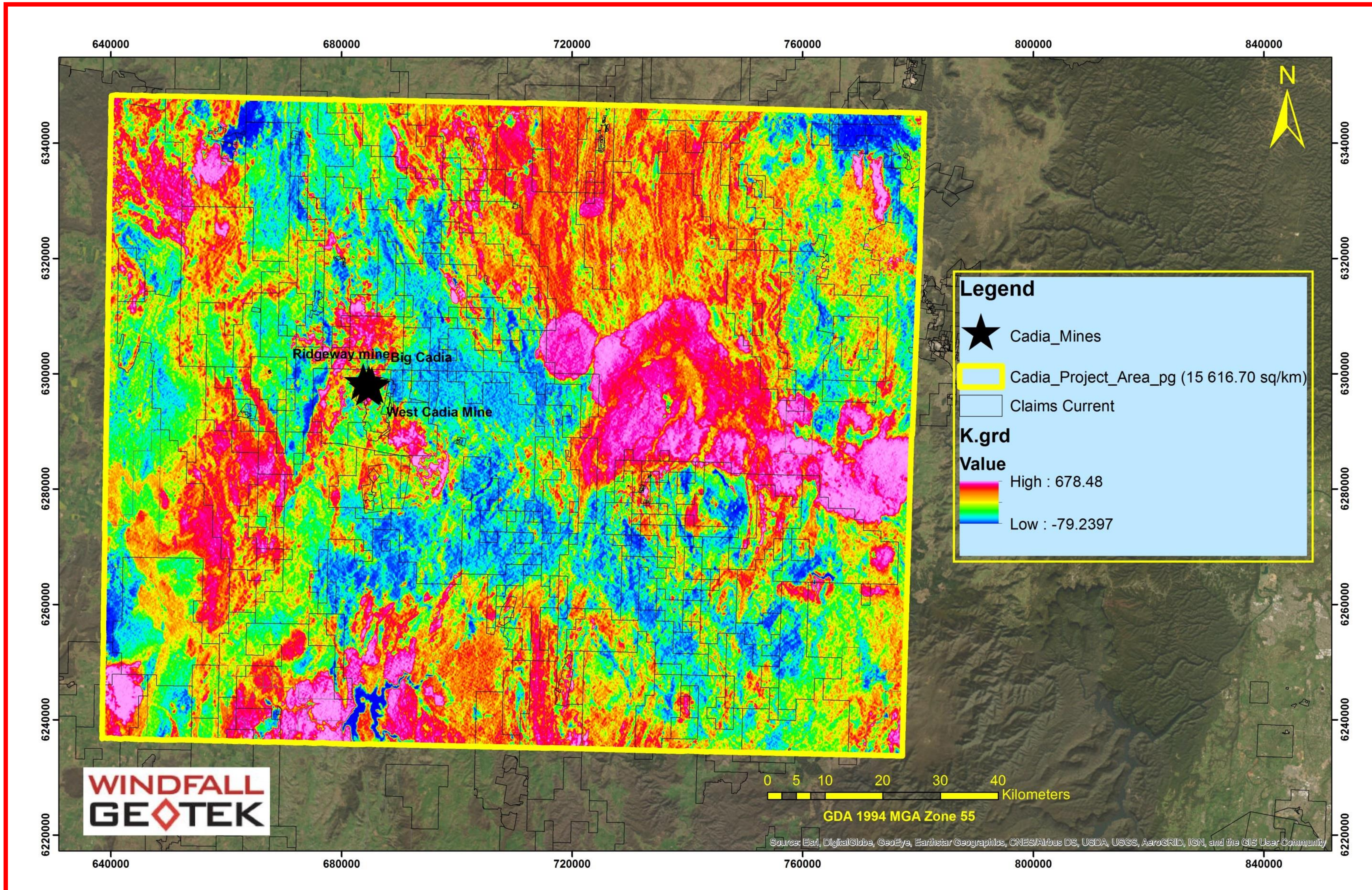

Figure 3: Radiometry data (K) from 1991 Magnetic-Radiometry Bathurst Survey data at 50m resolution

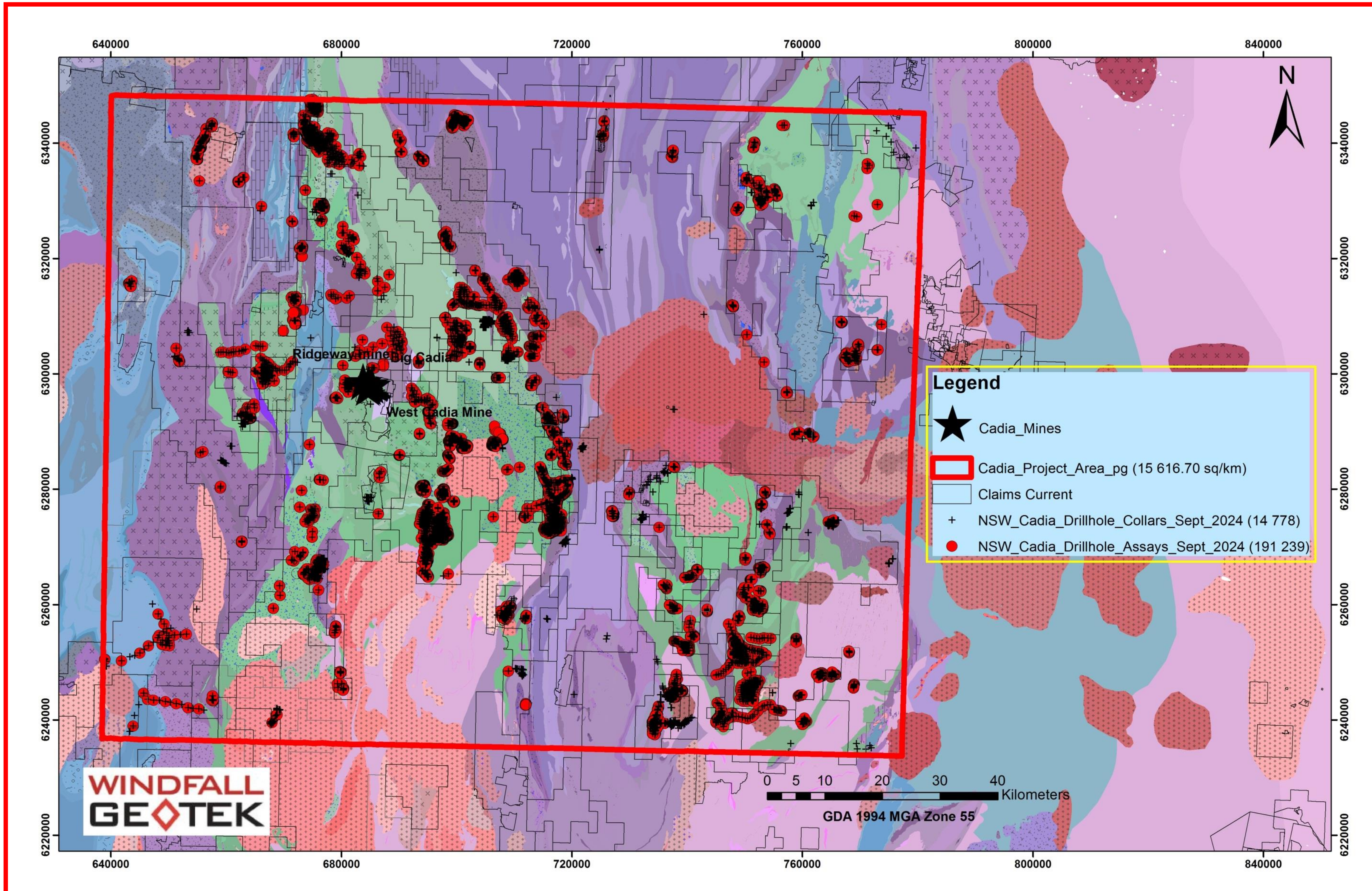

Figure 4: Drillhole Collars and Au-Cu Assays data location on background geology without sedimentary cover

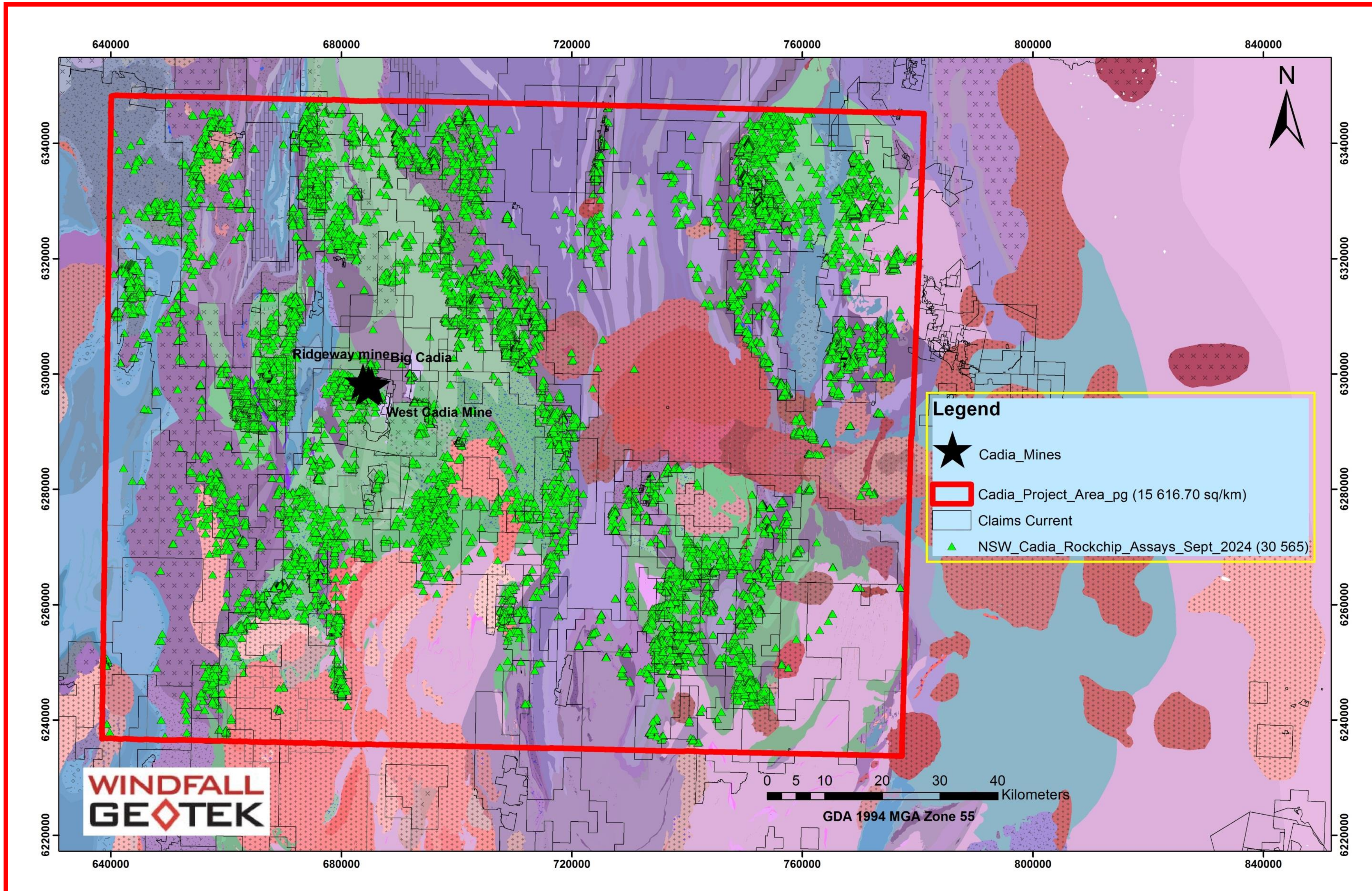

Figure 5: Rockchip Au-Cu Assays data location on background geology without sedimentary cover