9/18 Parry ST
Fremantle, WA 6160
Australia

# Au-Ni-Co Targets from ioGAS

**To: Katika Labrum (GD Wealth)**
**From: Franco Pugliese, Ph.D. M.AIG., APEX Geoscience**

**Subject: GD WEALTH – Bummer Creek Project – Soil sampling analysis**
**Date: 14th October 2025**

## Introduction

A soil sampling program was carried out in August 2025 at Bummer Creek Project by Apex Geoscience. In total, 858 soil samples have been collected (Figure 1) and analyzed for multi-element. ioGAS was used to carry out geochemical analysis to generate target zones for Au, Ni and Co.

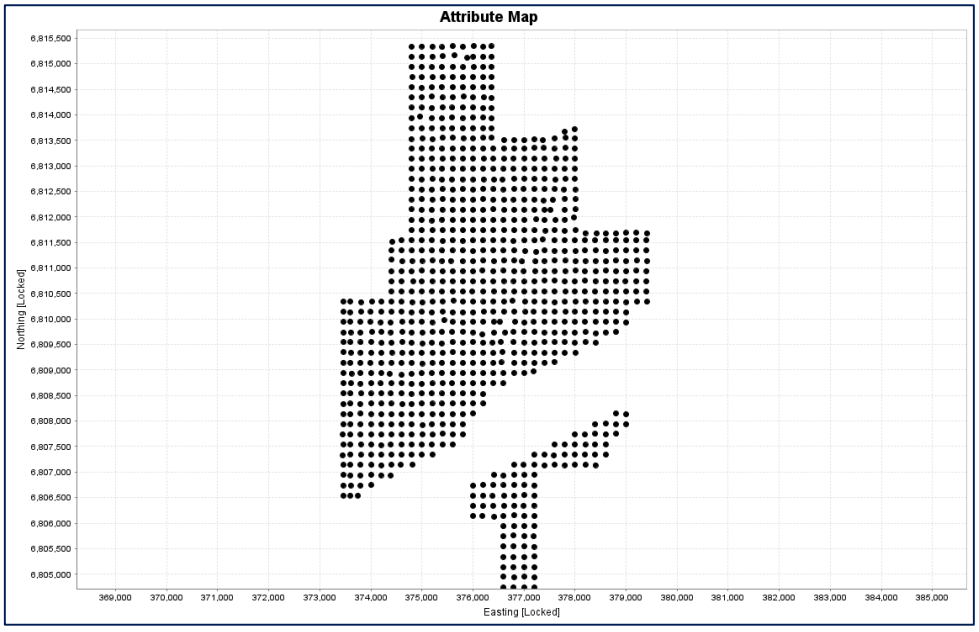


*Figure 1: Location and distribution of the 858 soil samples collected at Bummer Creek Project.*

## Gold Targeting

Weak gold anomalies have been identified in the soil samples that follow a pattern that crosses first and second order creeks, and are located along NNE-oriented ridges, giving suggestions that these may be indicating faults or mineralizing structures (Figure 2) or simply transported anomalies along the creek systems.

Other secondary targets for Au have also been identified, from zone 2 to 5 (Figure 2). At first glance, an anomaly trend immediately to the south of the main target structure can also be observed. However, most of these samples are located either in creeks or in flood plains; consequently, there is no certainty regarding the source for those gold anomalies. Nevertheless, it is worth checking them in the field, as it could be mineralization hosted along faults in creeks.

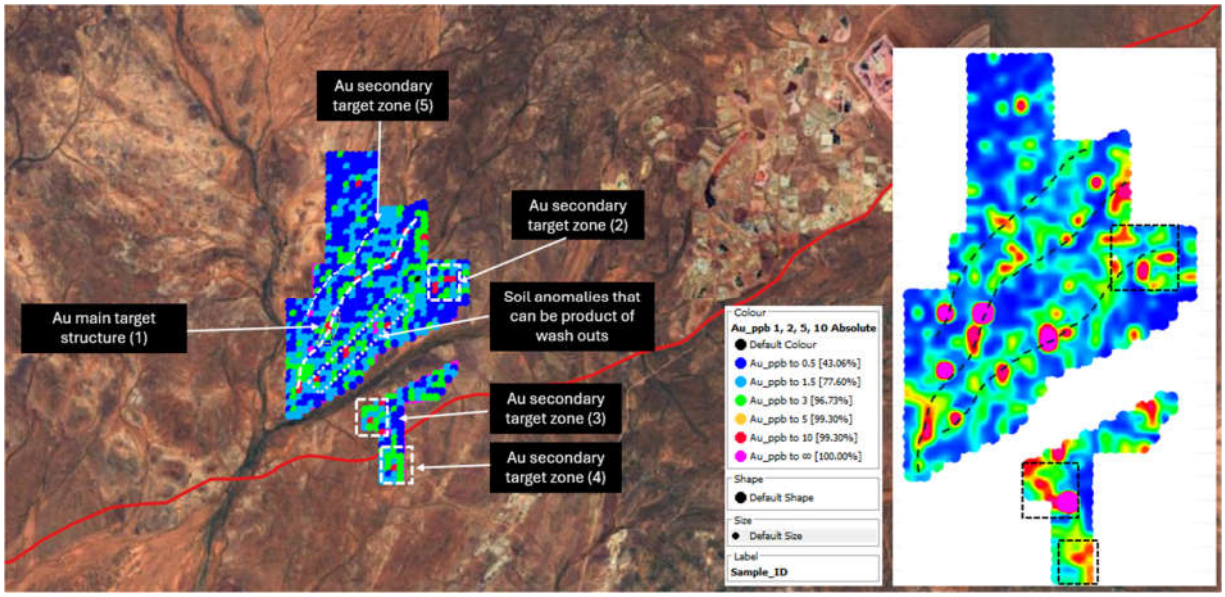


*Figure 2: Au anomalies in soil and Au targets. Main figure: Au attribute map. Right figure: Au grid map.*

Gold shows no association with arsenic or bismuth. However, there is a clear association between the precious metal and calcium (Figure 3). Therefore, calcium could be used as pathfinder for gold.

When plotting gold anomalies in a Ca-K-Na ternary plot for checking possible hydrothermal alterations, there are two defined groups of samples. The first group shows a clear correlation with potassium, and there are practically no anomalous samples. However, the second group, hosting most of the gold anomalies, is notoriously richer in calcium.

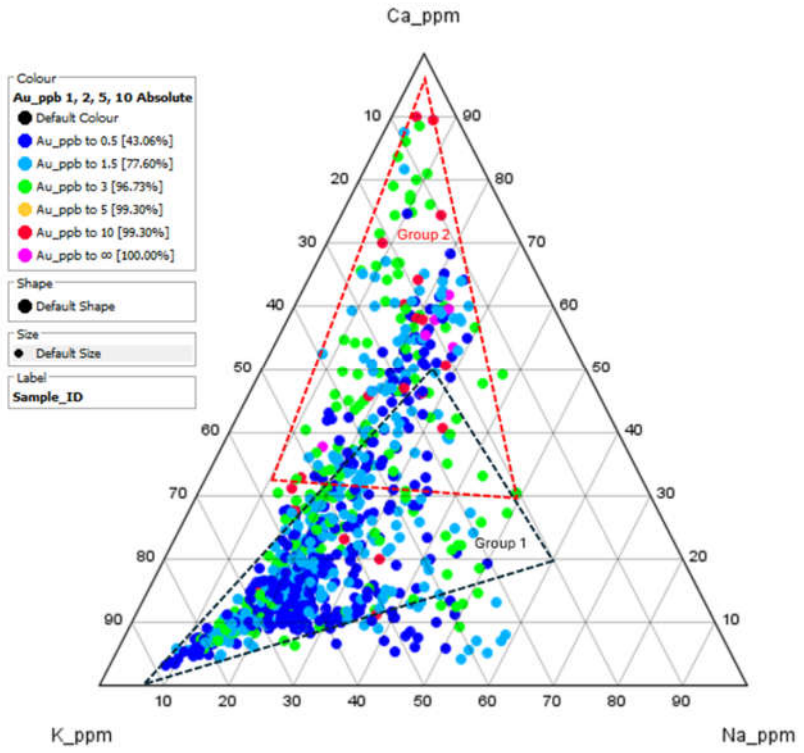


*Figure 3: Ca-K-Na ternary plot. Colours indicate Au concentration in soil samples.*

When plotting calcium in an attribute map (Figure 4), the same identified target areas for gold can be detected as well. The area with Au soil anomalies along creeks and washing zones are highlighted in linear patterns as well with calcium anomalies. Therefore, it would be important to check this target (6) as well.

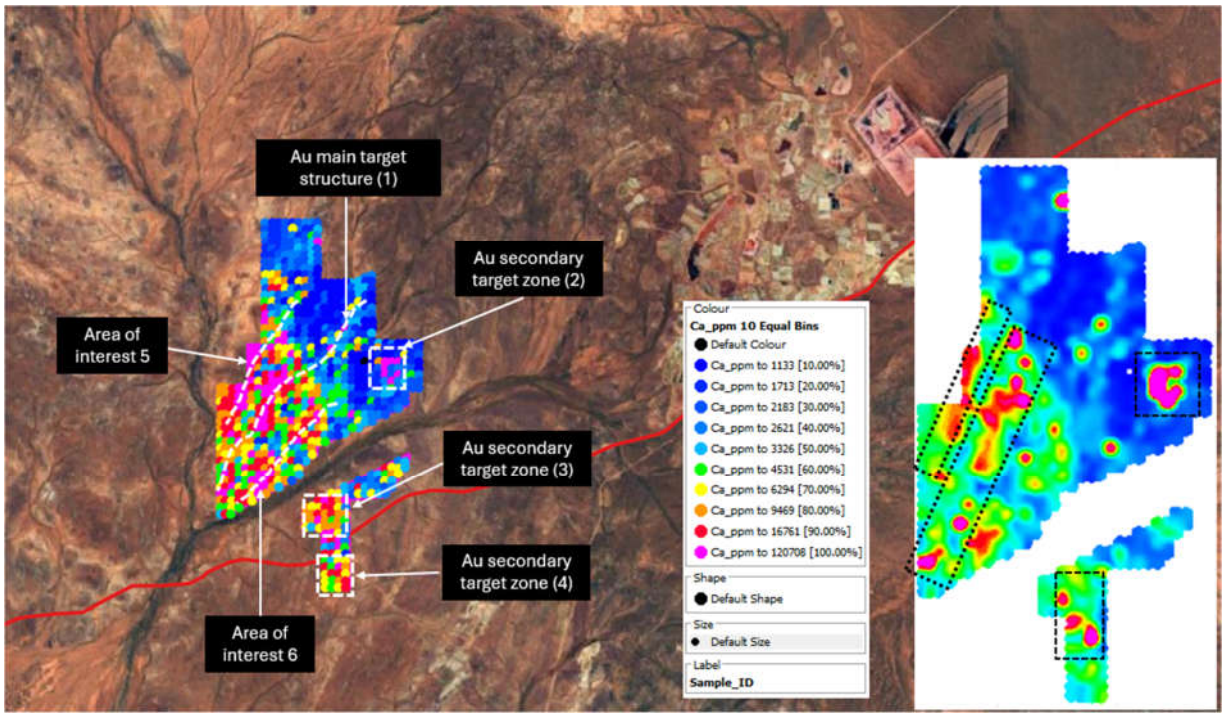


*Figure 4: Ca anomalies in soil samples. Main figure: Ca attribute map. Right figure: Ca grid map.*

When investigating possible relationships between gold and nickel and cobalt, there is no positive correlation overall (Figure 5, left side). However, when looking into more detail, there are flat values of nickel and cobalt associated to the highest gold anomalies (Figure 5, right).

When plotting nickel versus cobalt, two series of samples with different linear relationships can be identified (Figure 6). Most of the highest gold anomalies are found at the end of the series 1, while the samples showing higher nickel and cobalt grades do not exhibit high gold anomalies. Therefore, taking advantage of the correlation between gold, nickel and cobalt of the samples belonging to the series 1, showing the same linear relationship and located at the end part, an attribute map can be plotted for highlighting target areas for gold (Figure 7).

The attribute map of gold, nickel and cobalt show that, despite there are samples in the washing zones, they still exhibit a geochemical correlation between these analysed elements which may suggest that this zone is actually, a low priority target zone.

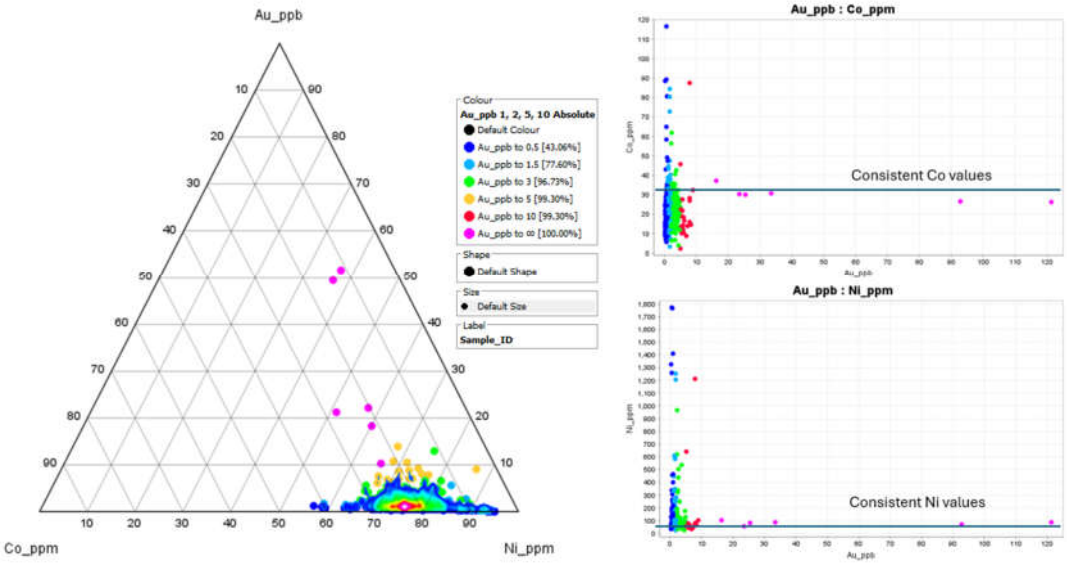


*Figure 5: Left side: Au-Co-Ni ternary plot. Right side: Co-Au and Ni-Au plots. Colours show Au grades.*

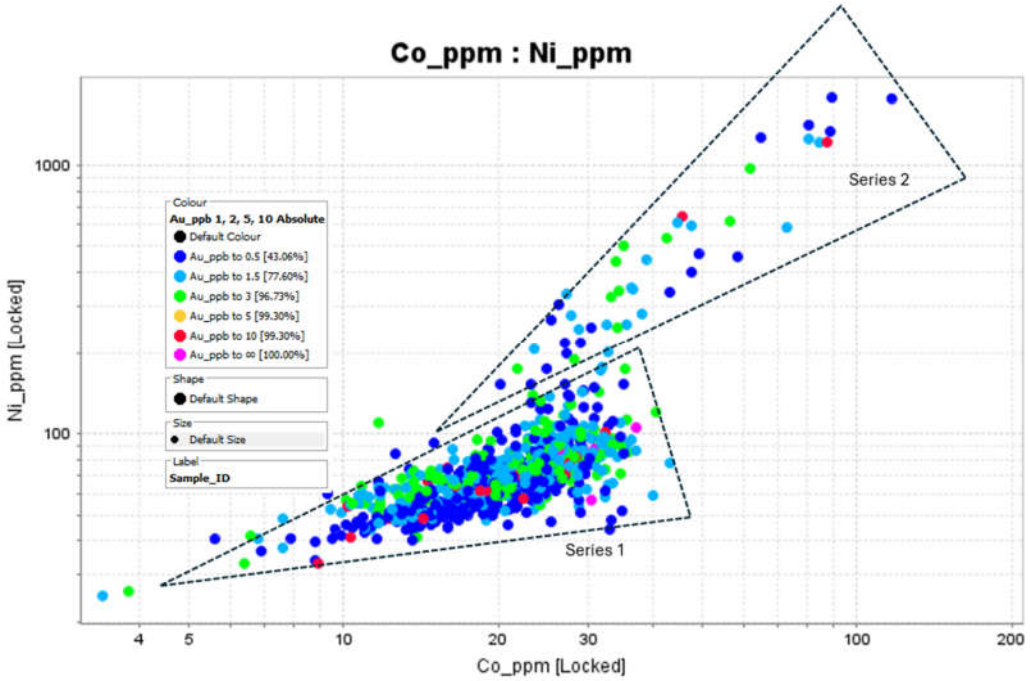


*Figure 6: Ni-Co plot, in logarithmic scales. Colours indicate gold grades.*

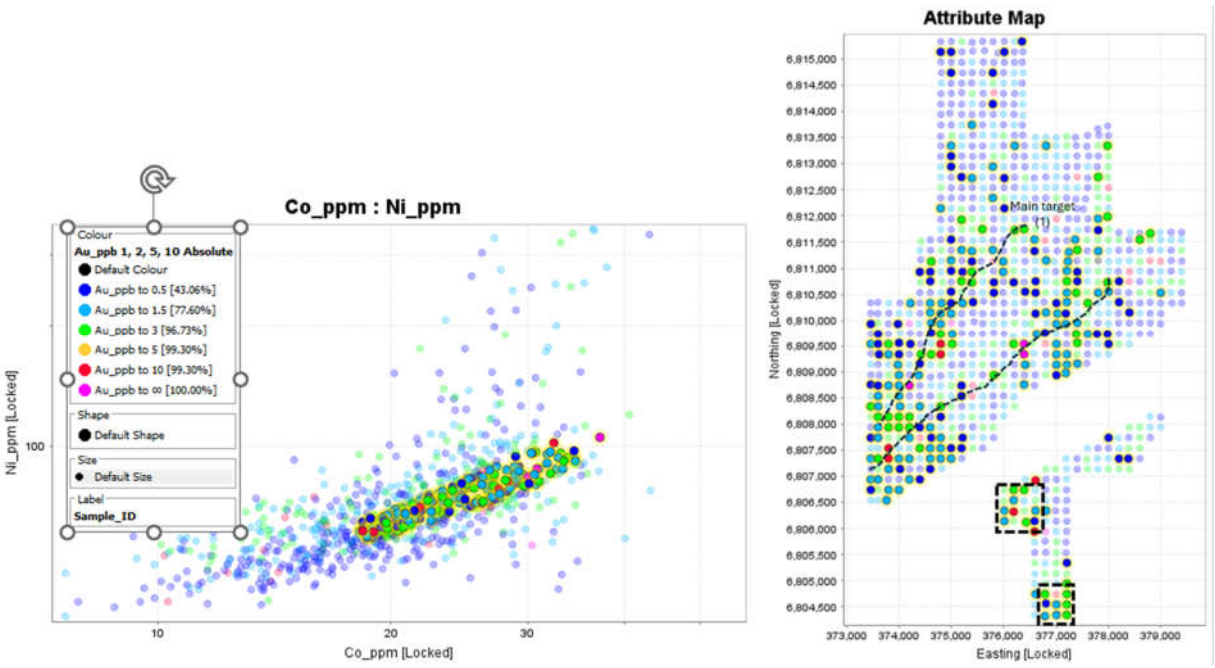


*Figure 7: Left side: selected group of samples of the series 1 in a zone with the highest gold anomalies. Right side: attribute map of the selected samples, highlighting the zones with highest gold anomalies that belong to the series 1. Colours indicate gold grades.*

## Nickel Targeting

Nickel anomalies show a clear target body that exhibits sharp contacts against the country rocks (Figure 8). Ultramafic rocks usually show a positive correlation between nickel and chromium, and the collected samples clearly depict that correlation (Figure 9). Moreover, chromium anomalies are very similar to the ones found for nickel (Figure 9).

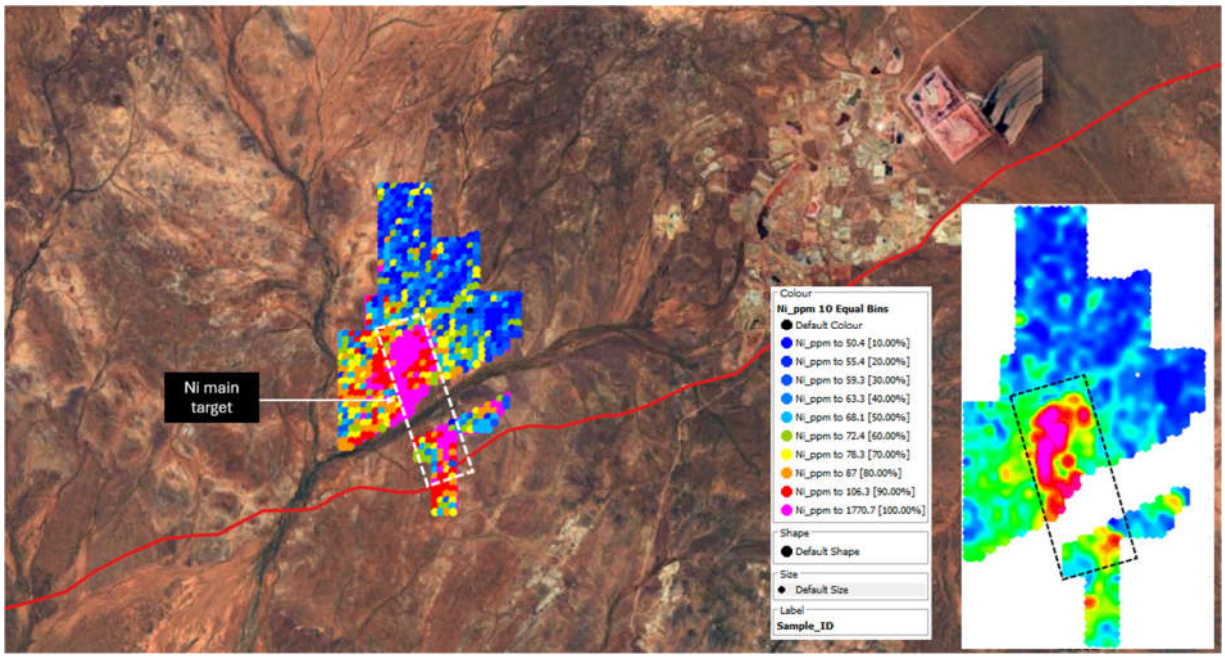


*Figure 8: Ni anomalies in soil samples. Main figure: Ni attribute map. Right figure: Ni grid map.*

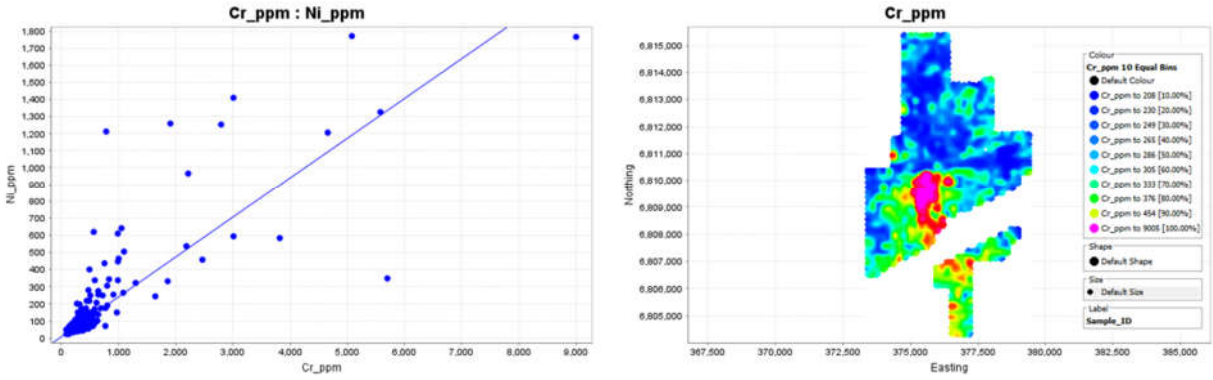


*Figure 9: Ni-Cr relationships to the left, and Cr grid map to the right highlighting the same anomaly pattern as Ni.*

## Cobalt Targeting

Cobalt anomalies show a clear target body that exhibits sharp contacts against country rocks (Figure 10), in a comparable pattern with nickel and chromium. However, there are other smaller hot spots that deserve to be investigated in further detail to check if there is a source for those anomalies or if they are product of the washing zones.

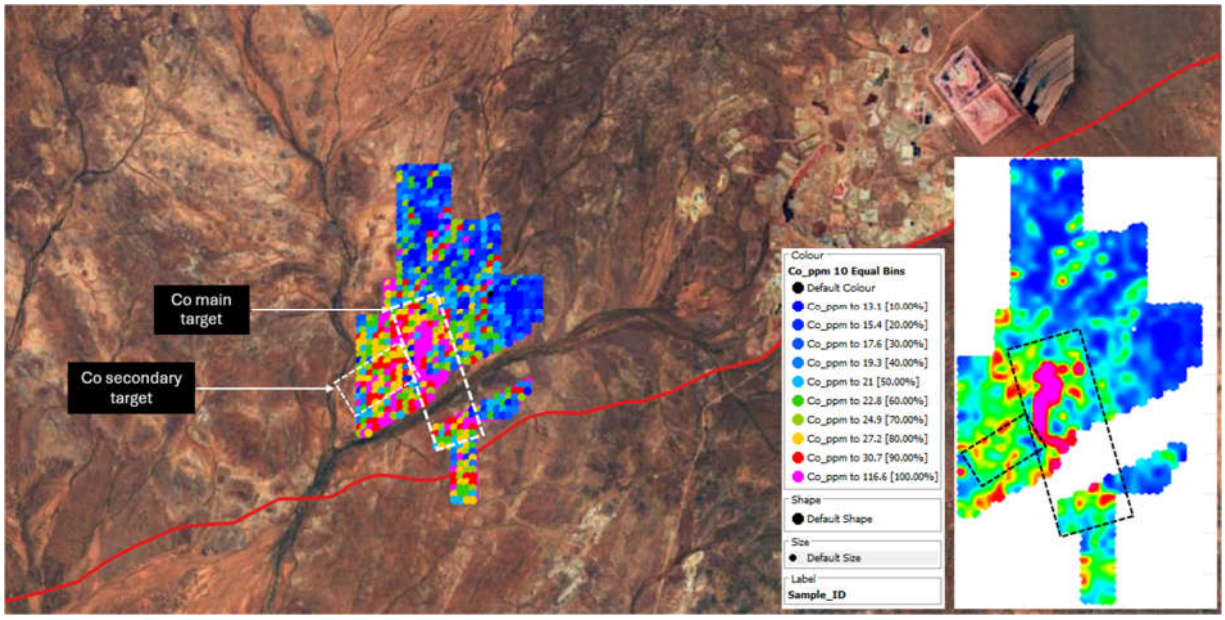


*Figure 10: Co anomalies in soil samples. Main figure: Co attribute map. Right figure: Co grid map.*

## Geochemical boundaries

There is a sharp geochemical boundary trending NWN that separates groups of anomalies that are typical of different lithological domains (Figure 11). To the east, the domain exhibits higher anomalies in Ce, La in Cs, a suite that is more typical of acid rocks. In contrast, to the west, the domain depicts higher anomalies in Fe, Mg and Ti, a suite that is more typical of basic to ultrabasic rocks. Drilling confirmed this with dolerite, basalt, sediments and felsic volcanic lithologies noted.

The reason for this sharp limit is thought to be a lithological contact.

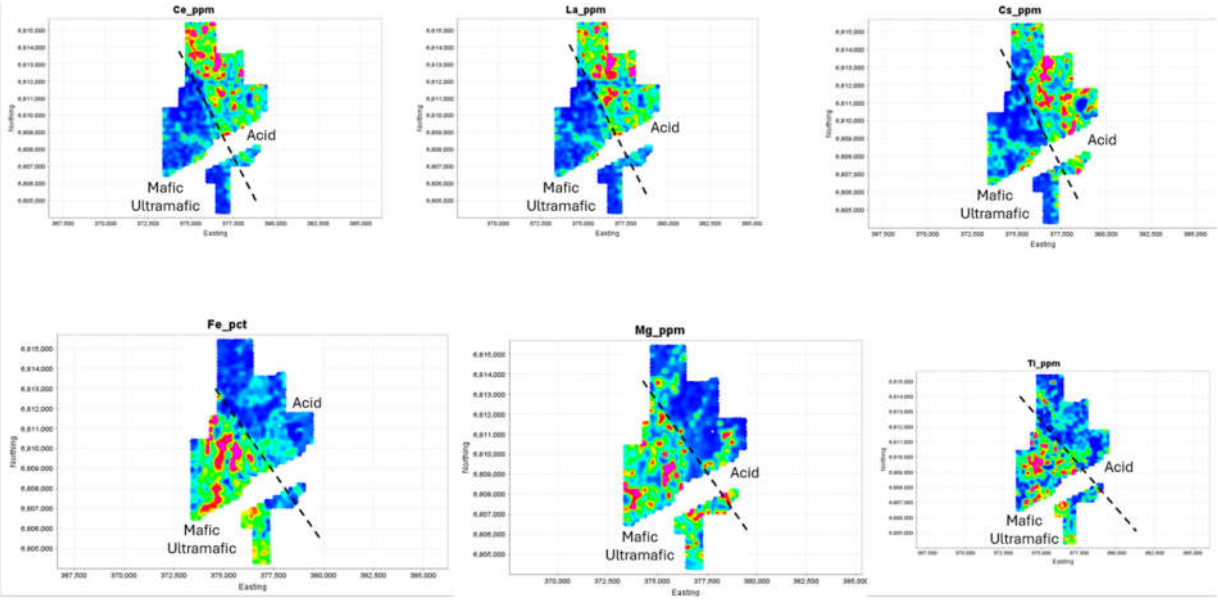


*Figure 11: grid maps of Ce, La, Cs (top) and Fe, Mg and Ti (bottom), highlighting the clear geochemical contrast between acid and mafic/ultramafic rocks.*

# Recommendations

1. Investigate the Ni/Co coherent anomaly on the ground.
2. Infill soil samples over this target area.
3. This is all dependent on GD Wealth's interest in pursuing Nickel/Cobalt in this current deflated nickel price. This target is ranked as low based on the current Nickel price.

*Figure 12: high priority zone (yellow) for field investigation and rock chip sampling prior to a scout drilling program.*