



# KIMBERLEY PROJECT

**TECHNICAL OVERVIEW  
OCTOBER 2020**



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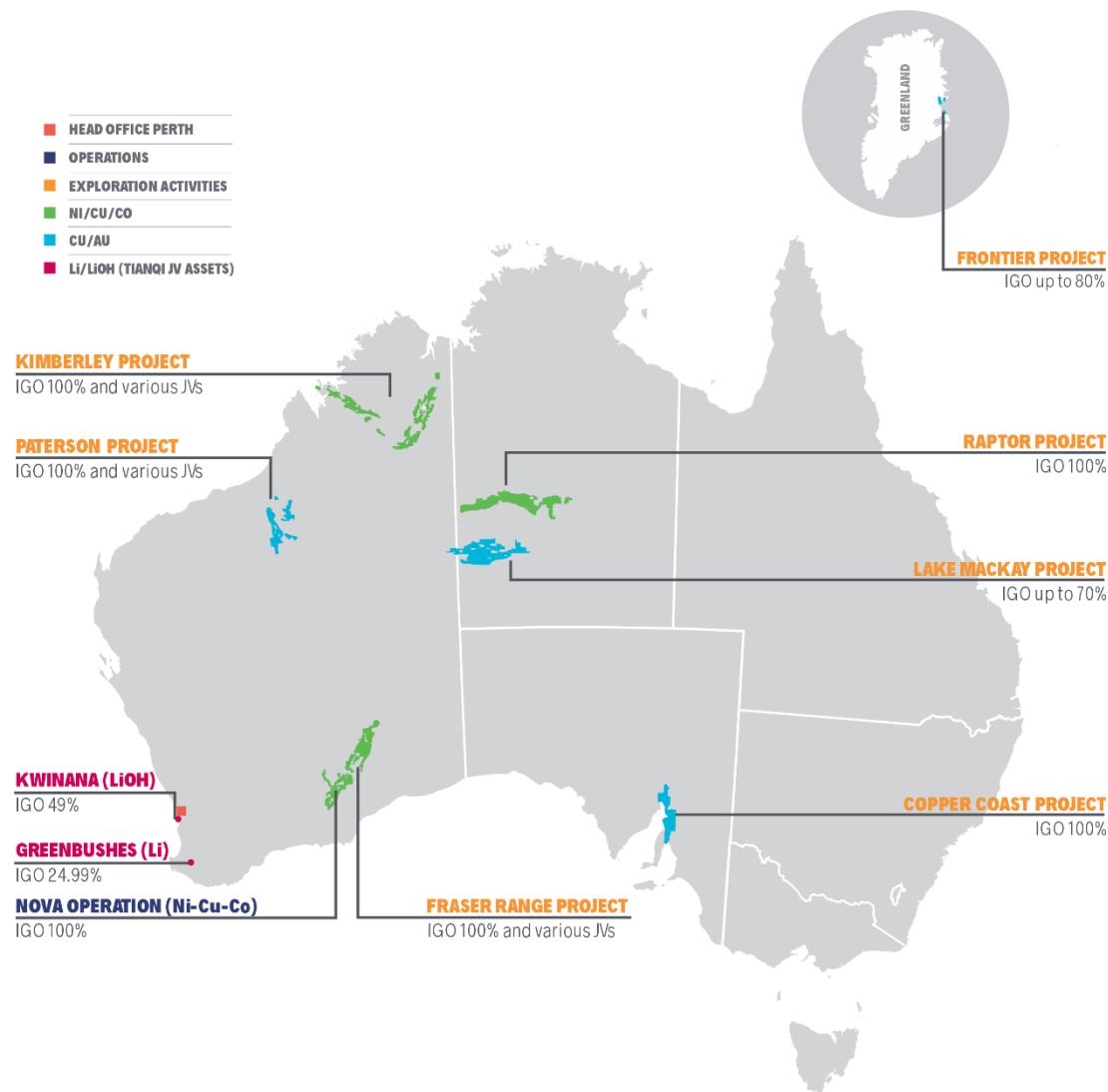
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## INTRODUCTION

To align with IGO's strategic focus on clean energy metals IGO prioritises the exploration of terranes prospective for magmatic nickel sulphide and sediment hosted copper deposits.

The Company has acquired exploration access to extensive belt-scale land positions across Australia and in Greenland, and all are highly prospective for multiple Tier-1 base and precious metals discoveries (Figure 1).

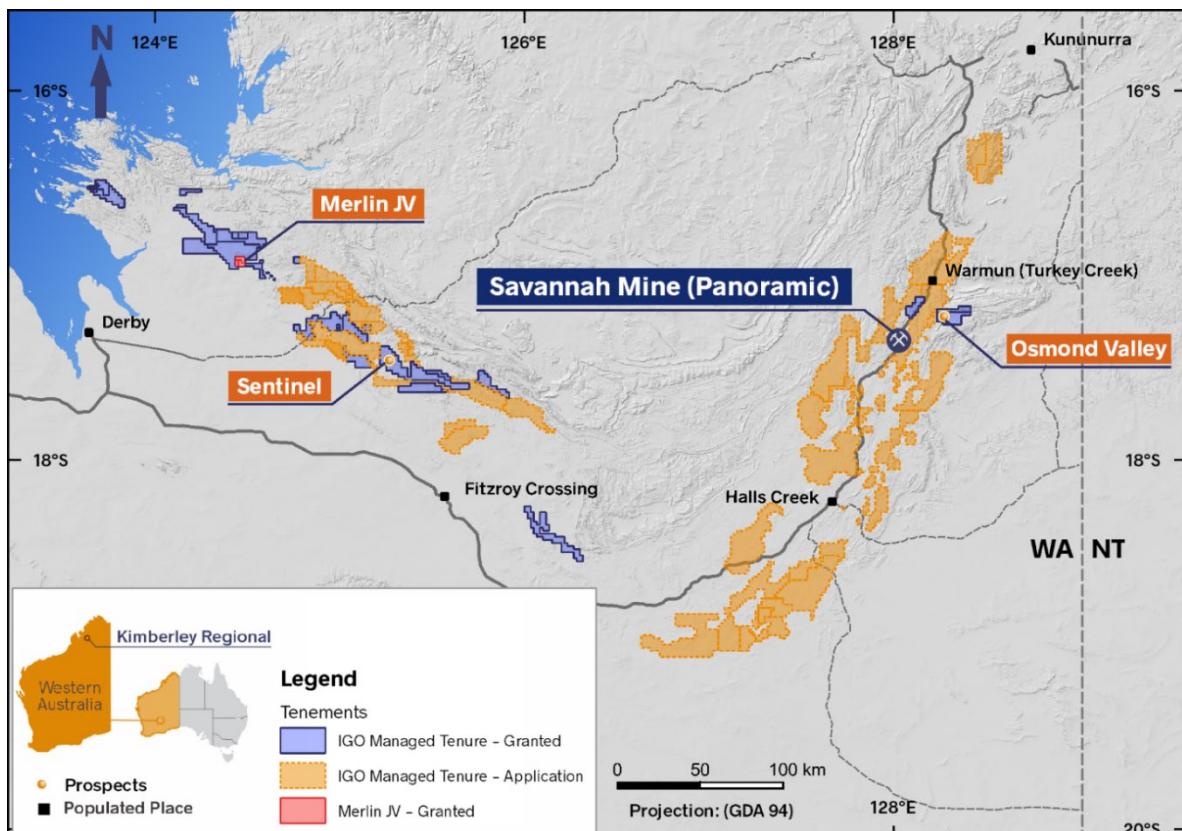


**Figure 1 - Location Map of IGO's Belt-scale Exploration Projects and Operations**

The Kimberley Project in Western Australia (Figure 1) is a belt-scale project that is highly prospective for high value magmatic nickel-copper sulphide discoveries. The project spans a Proterozoic belt that has proven magmatic nickel-copper-cobalt sulphide mineralisation that includes the Savannah Mine in the East Kimberley, and the more recent Merlin nickel-copper-cobalt discovery in the West Kimberley (Figure 2), which was made by IGO's JV partner, Buxton Resources.

## TECHNICAL OVERVIEW

IGO considers the Kimberley region to be underexplored for nickel with much of the historical exploration focused on the aerially limited Sally Malay Suite around Savannah. Several other intrusive suites in both the East and West Kimberley remain underexplored for nickel-copper sulphide deposits by modern techniques.



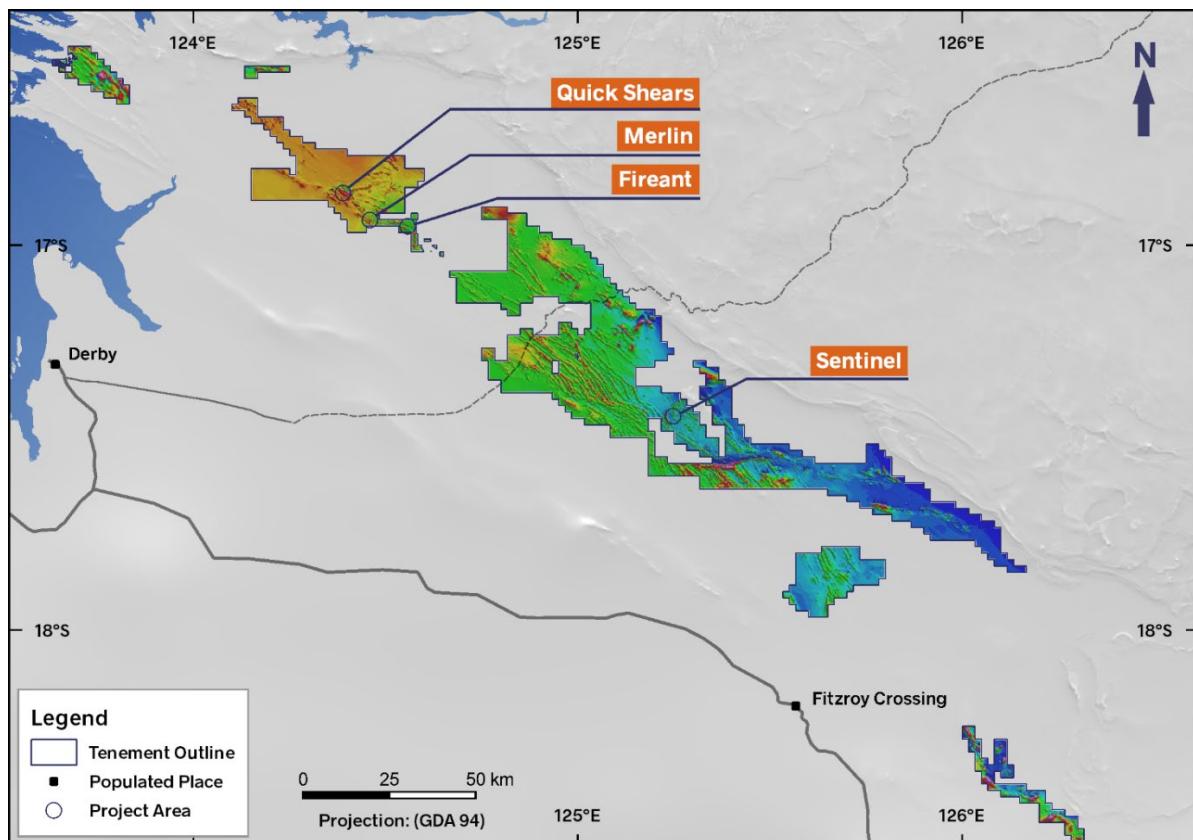
**Figure 2 - Kimberley Project Map**

In the past two years IGO has consolidated 13,247km<sup>2</sup> of exploration tenure in the East and West Kimberley (Figure 2), making IGO the dominant nickel explorer in the region. IGO is using recently flown detailed aeromagnetic data (Figure 3), radiometric data and EM survey data to better understand the prospectivity of the West Kimberley belt. IGO has also amassed a digitised set of regional stream sediment sample data that is not publicly available and has likely never been interpreted as a collective dataset. Additionally, IGO also has access to its proprietary De Beers database and sample inventory that includes heavy mineral concentrates from 5,890 stream samples, as well as stream sediment geochemical samples and hyperspectral survey data from the Kimberley Project area. The heavy mineral concentrates are in the process of being analysed using the state of the art TESCAN Integrated Mineral Analyser (TIMA).

The scale of IGO's land holding in the Kimberley is akin to IGO's tenure area in the Albany Fraser Orogen. However, the availability of existing high-quality data sets and the absence of transported cover in the Kimberley allows for accelerated early stage exploration due to the exposed geology.

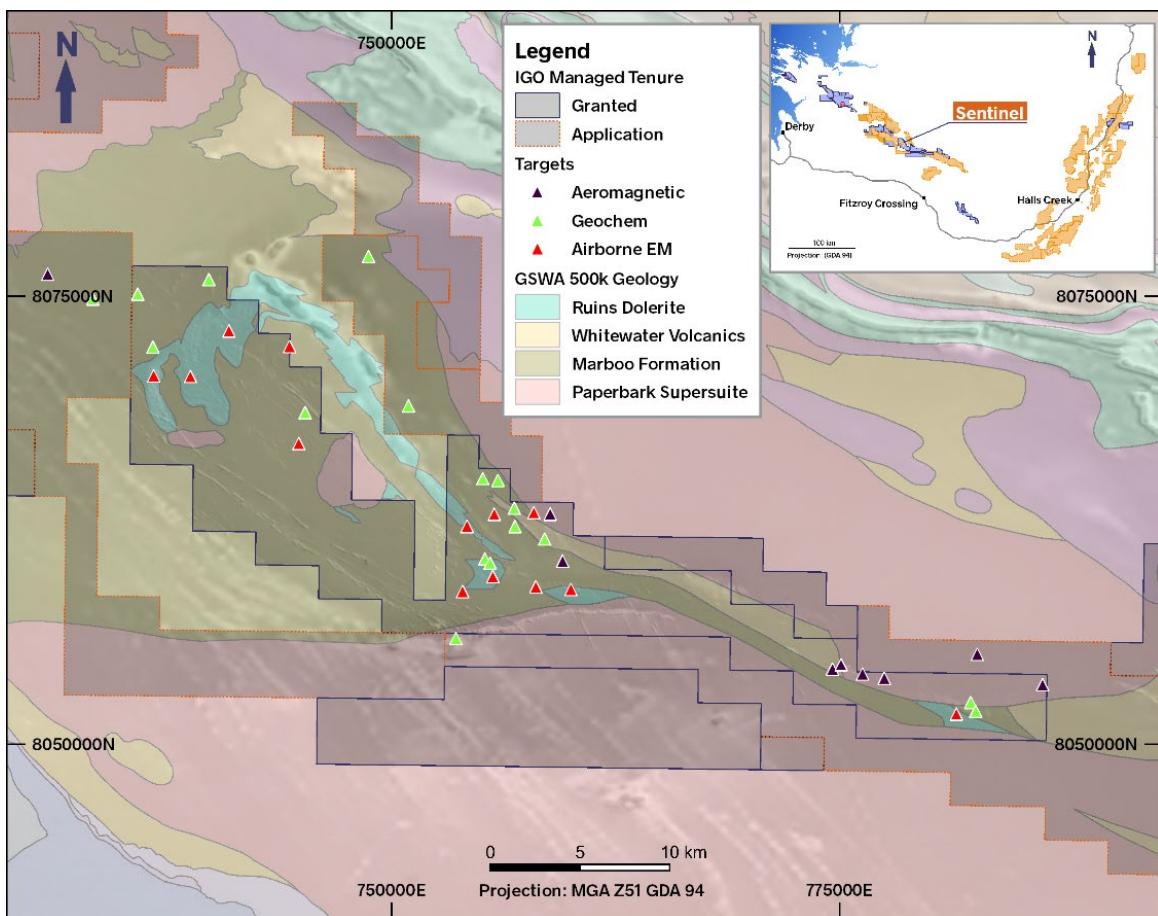
Ground EM was recently advanced in the Quick Shears and Fireant target areas northwest and east of Merlin, and drilling was recently completed at Quick Shears to test conductors, which were identified within the Ruins Intrusive Suite under shallow cover. WA government co-funded deep diamond drill holes were also recently completed at the Merlin Prospect under the Exploration Incentive Scheme

(EIS) to test a gravity anomaly for larger accumulations of conductive massive sulphide mineralisation, which may have been masked by the numerous smaller shallower zones of highly conductive massive sulphide that were previously discovered by JV partner Buxton Resources. Two of the three holes drilled at Merlin intersected heavily disseminated, stringer and/or net-textured nickel and copper sulphides. Final assay results are still pending from the 2020 drill program.



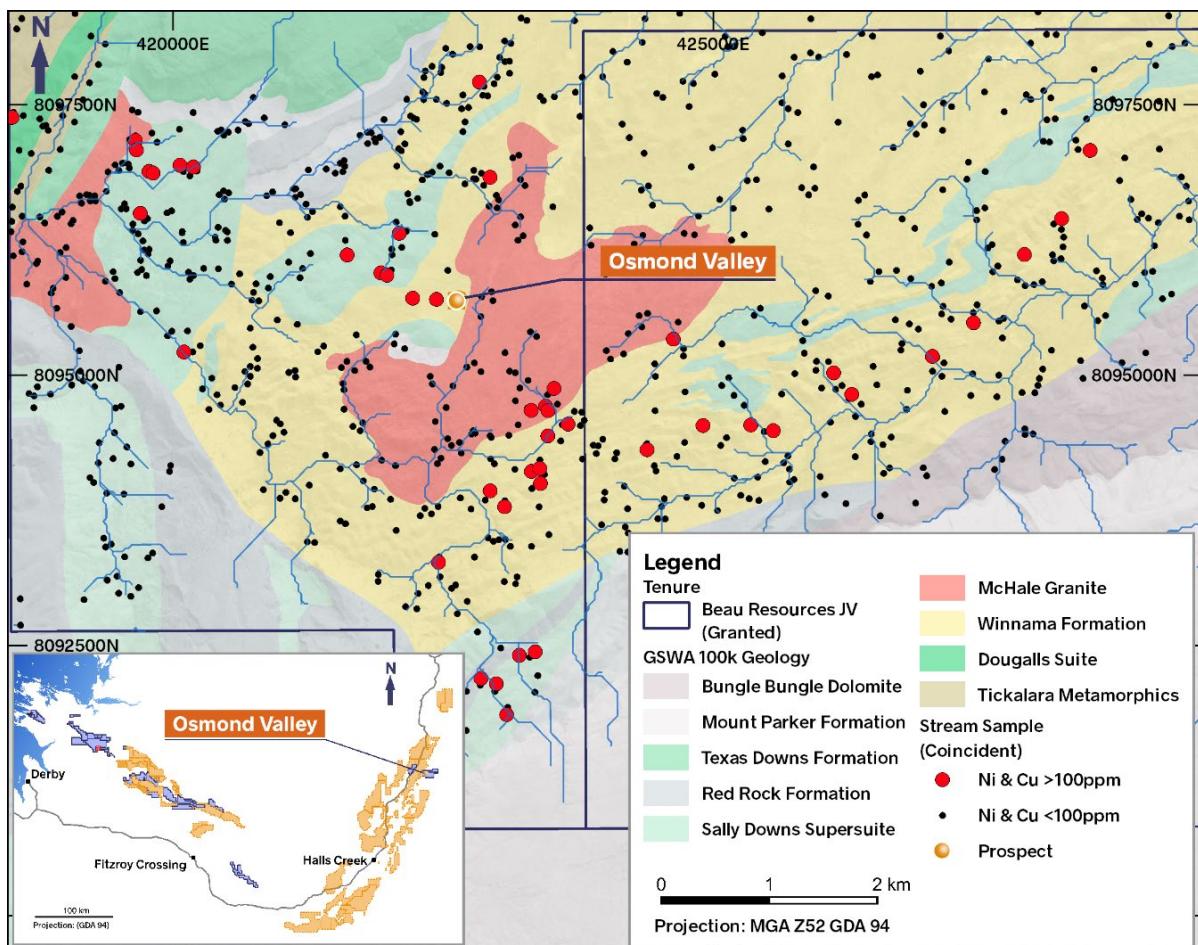
**Figure 3 - New 100m-spaced high-resolution aeromagnetic survey of the West Kimberley tenements and key exploration target areas**

The Sentinel area (Figure 4) has been targeted as a priority exploration setting due to the presence of high-MgO ultramafic intrusions and multiple large, folded sills of the prospective Ruins Intrusive Suite. This area has been surveyed using high-resolution aeromagnetics, radiometrics, SPECTREM airborne electromagnetics, and some preliminary surface geochemical traversing. Numerous anomalies have been identified for testing in 2021.



**Figure 4 - Sentinel area map of multiple geophysical and geochemical anomalies that require testing**

The Osmond Valley JV is a key focus of IGO's exploration in the East Kimberley with IGO field work planned for Apr-Jun 2021. The Osmond Valley is in a unique ENE-trending structural domain to the east of the main Halls Creek Orogen (Figure 2). Historic exploration in the early-1970's included regional stream sediment sampling (Figure 5), prospect scale mapping and soil sampling, which led to the discovery of a nickel-copper bearing gossan hosted within pyroxenite, but the 'Osmond Valley' Prospect gossan was never drill tested. There has been no modern airborne or ground EM to test this gossan and the other surrounding geochemically anomalous areas (Figure 5). IGO has identified several priority areas for follow-up in the project area through digitising this historic exploration data, the reprocessing of hyperspectral data and the acquisition of multiclient aeromagnetic-radiometric data.



**Figure 5 - Osmond Valley project in the East Kimberley showing simplified historical stream sediment sample results for nickel and copper<sup>1</sup>**

<sup>1</sup> Briggs, I. 1974. Halls Creek Project, Annual Report for the period ending 31/12/1973, TR70/5689-5691H. WAMEX database.  
Codner, C. 1973. Hall's Creek Project, Annual Report for the period ending 31/12/1972, MC80/3638-3642 & 4169. WAMEX database.



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