STAVELY MINERALS
ASX Code: SVY

ASX ANNOUNCEMENT **12 February 2024**

Hawkstone Nickel-Copper Project, WA – Update

Stavely Expands Footprint at Hawkstone Project with Acquisition of Additional Hard-Rock Metal Rights

Agreement completed to secure an additional three tenements covering key extensions of the interpreted highly prospective mafic magma chamber

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- **Stavely Minerals has strategically expanded its exploration footprint at the Hawkstone Nickel Project, located in the emerging West Kimberley magmatic nickel province.**
- **This follows a review of results from the recent successful Falcon gravity gradiometer and magnetic survey, prompting Stavely to enter into an extension of a previous agreement with Kimberley Alluvials Pty Ltd to acquire the hard-rock rights to an additional three tenements.**
- **The Merlin nickel-copper-cobalt discovery (IGO/Buxton Resources) is a high-tenor (average 8% Ni tenor for massive sulphide) magmatic nickel style of mineralisation, with individual assays of up to 8.14% Ni, 5.26% Cu and 0.69% Co, hosted by the Ruins Dolerite[1] and located ~1km north-west of Stavely Minerals' tenement boundary.**
- **In November 2023, IGO and Buxton announced high-grade Ni-Cu-Co assays from the initial drill hole into the Dogleg discovery[2], located some 13km north-west of Merlin, and further high-grade results from a second diamond drill hole last week.**
- **The Hawkstone Project includes ~30 kilometres of easterly strike continuation of the Ruins Dolerite, which is highly prospective for nickel-copper-cobalt mineralisation.**
- **Additionally, a regionally significant gravity high under the Hawkstone Ni-Cu-Co Project may represent a deeper mafic magma chamber, potentially an analogue to the Eastern Deeps intrusion at the world-class Voisey's Bay deposit in Canada.**
- **The additional tenements include an area that is inferred to overlay the southern margin of the interpreted mafic magma chamber at depth and is believed to be part of the highly Ni-Cu-Co prospective Ruins Dolerite intrusive event.**
- **The Hawkstone Project represents a relatively under-explored opportunity for a significant discovery in an emerging mineral field where the prospectivity and fertility of the Ruins Dolerite has already been demonstrated by the Merlin and Dogleg discoveries.**

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[1] Buxton Resources website: West Kimberley - Buxton Resources Ltd, ASX:BUX announcement dated 27 November 2015
[2] See ASX: BUX announcement 6 November 2023

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Stavely Minerals Limited (ASX Code: **SVY** – "Stavely Minerals") is pleased to advise that it has further expanded its strategic exploration footprint at its 100%-owned **Hawkstone Nickel-Copper Project** in the West Kimberley region of Western Australia.

After reviewing the results of a recently completed Falcon gravity gradiometer and magnetic survey, Stavely has entered into an extension of an existing agreement with Kimberley Alluvials Pty Ltd, granting Stavely the hard-rock rights over three additional tenements covering additional portions of an interpreted deep mafic magma chamber that may represent the source of the magmatic nickel-copper-cobalt mineralisation discovered recently across the district.

The tenements subject to this agreement now include E04/1169, E04/2405, E04/2563, E04/2623, E04/2717 and EL(A)04/2876 (see Figures 2, 3 and 4) taking the Hawkstone Project tenure to some 870km^2.

The consideration for Stavely Minerals being granted the hard-rock mineral rights over these tenements is a converse granting of alluvial rights over all of Stavely Minerals' (and its subsidiaries') tenure in the West Kimberley region to Kimberley Minerals Ltd, with the main focus being on garnet, staurolite and kyanite alluvial deposits.

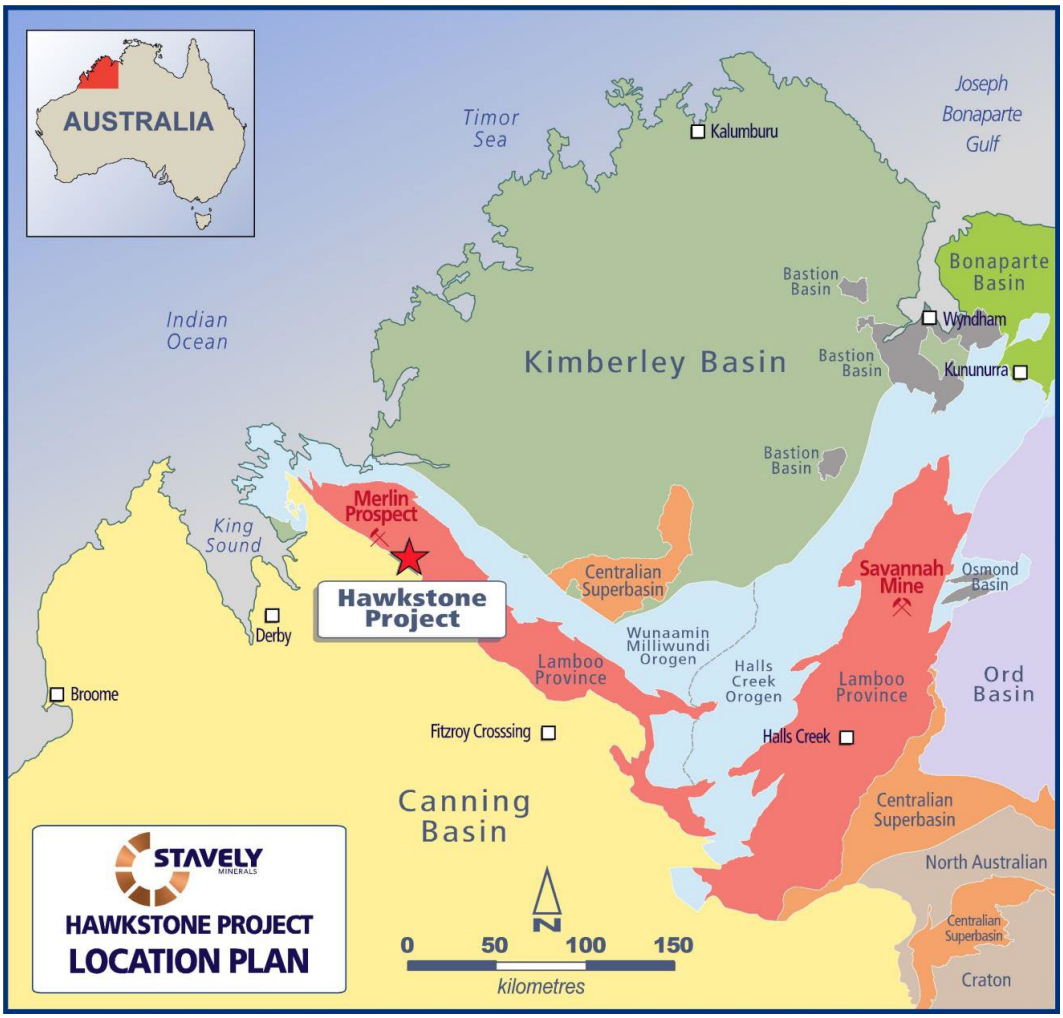

Figure 1. Hawkstone Project location map.

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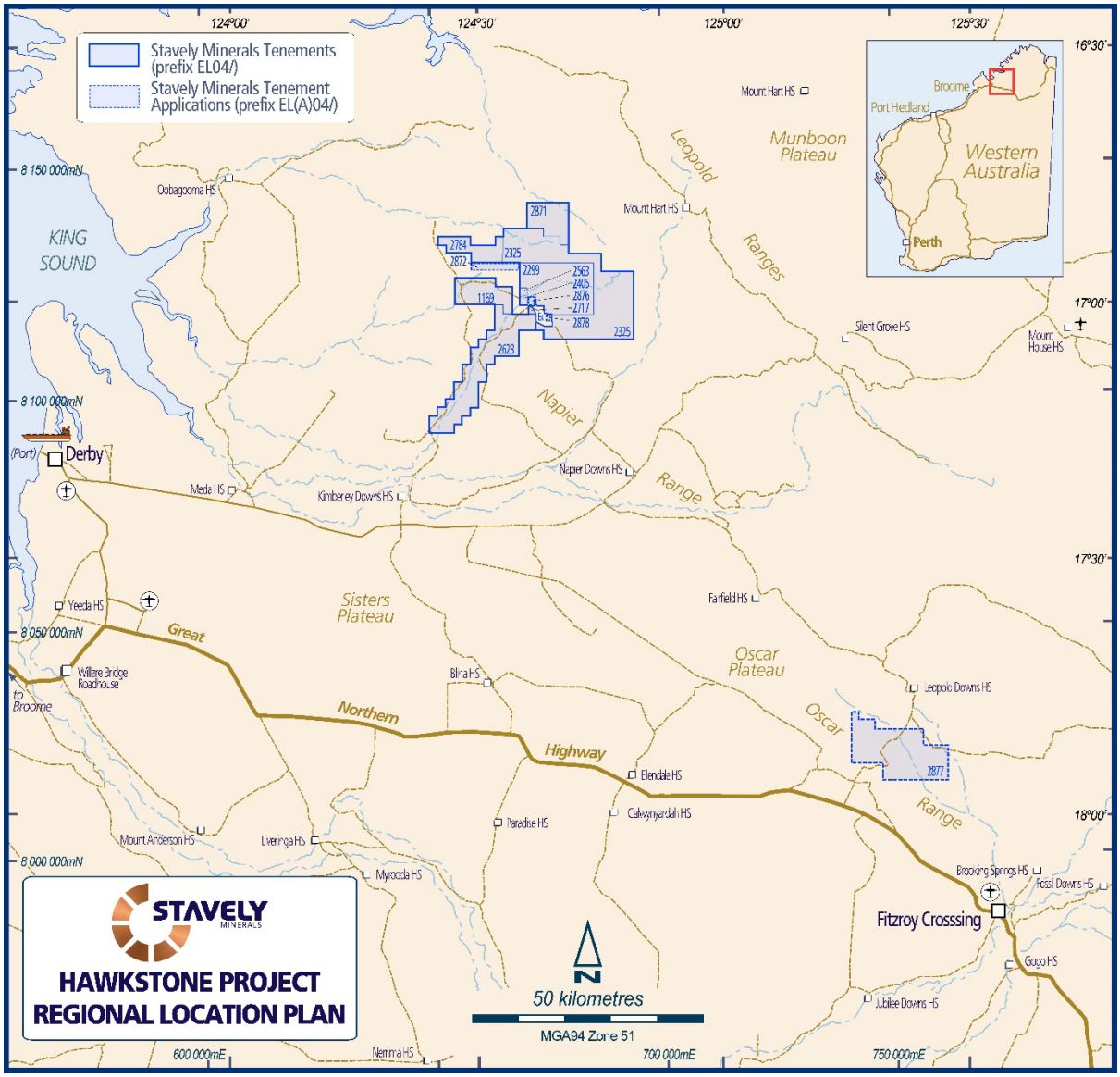

Figure 2. Stavely Minerals Tenement location map.

Stavely Minerals Executive Chair and Managing Director, Mr Chris Cairns, said: *"Stavely Minerals strongly believes that reports of the demise of the Australian nickel sulphide sector have been grossly exaggerated – with apologies to Mark Twain!*

"The lowest cost quartile of Class-1 LME nickel production (used in lithium-ion batteries) has been dominated by the big nickel sulphide producers like Sudbury, Norilsk, Voisey's Bay, Jinchuan and Nova-Bollinger here in Western Australia. The headline-grabbing noise about expanding pig-iron and matte nickel laterite production from Indonesia is overdone – and a good quality magmatic nickel deposit can operate profitably throughout the nickel price cycle.

"Having said that, high-cost Australian operations have been impacted, just as they have been historically every time the nickel price – which can be volatile – dips below the cost of production for these operations. Some of these high-cost nickel operations are ceasing production for the third or fourth time. This is nothing new and, in my view, the current herd-like negative sentiment towards nickel is not supported by any objective analysis, especially in the context of forecast demand underpinned by the on-going global energy transition.

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"Our Hawkstone Project is an exceptional walk-up exploration opportunity in a geological setting that has demonstrated prospectivity and fertility.

"The Merlin nickel-copper-cobalt discovery is a high-tenor nickel discovery (~8% Ni), an attribute which can be very important in terms of economic potential. Located just 1 kilometre from the Hawkstone Project tenement boundary, the Merlin discovery is significant in several respects.

"Technically, it demonstrates that the geological processes required to form a magmatic nickel sulphide deposit have occurred within the Ruins Dolerite, and the Hawkstone Project contains some 30 kilometres of strike continuation of this highly prospective yet under-explored unit.

"In November 2023, IGO and Buxton announced high-grade and high-tenor assays from the new Dogleg nickel-copper-cobalt discovery located a further 13km north-west of Merlin. Last week they announced further high-grade assay results from the second diamond drill hole in this high-tenor Ni-Cu-Co discovery.

"Stavely Minerals' recently completed Falcon gravity gradiometer survey sets a very strong foundation for our forward exploration programs to build upon. Both the gravity and magnetic data clearly show that the nickel-prospective Ruins Dolerite traverses our tenure for meaningful strike lengths of approximately 30 kilometres.

"Importantly, the gravity data from that survey are interpreted to show a large (~20km long) mafic magma chamber at depth beneath the Hawkstone Project. This chamber is considered to be analogous to the Eastern Deeps magma chamber at the world-class Voisey's Bay nickel mine. The additional tenure we now have hard-rock rights for, expands our footprint over that highly prospective unit.

"We are at the advanced stages of planning an ambitious ground geophysical programme in advance of drill testing any robust conductive targets generated."

Video with Stavely Executive Chair Chris Cairns – Listen to Chris Cairns discuss the Hawkstone Project and the significance of the recent Buxton/IGO discoveries which can be found on the Stavely Minerals website www.stavely.com.au under Investors/Media & Webinars – "Interview with Chris Cairns, Executive Chair & Managing Director of Stavely Minerals."

The Hawkstone Project

The Hawkstone Project is located in the emerging West Kimberley magmatic nickel province (Figure 1). The West Kimberley is an emerging magmatic-nickel province with two recent discoveries within separate IGO/Buxton JV's – the Merlin Ni-Cu-Co discovery in 2015 and the very recent Dogleg Ni-Cu-Co discovery (2023). Both of these discoveries are located directly along strike from Stavely Minerals' Hawkstone Ni-Cu-Co Project (Figure 3).

The Hawkstone Project comprises ~870km^2 of tenure, held both 100% and with earn-in and/or exploration rights in 13 separate tenements through Stavely Minerals' 100%-owned subsidiaries, North West Nickel Pty Ltd (NWN) and Strategic Metals Pty Ltd (Figure 2).

Falcon Gravity Gradiometer Survey

In late July 2023, Stavely engaged Xcalibur Aviation (Australia) Pty Ltd to fly a state-of-the-art airborne gravity survey over the Hawkstone Project using its airborne Falcon™ Plus gravity gradiometer system.

The Hawkstone Project is located approximately 1km along strike from the Buxton Resources/IGO Joint Venture at the Double Magic Project, as shown in Figure 3. The recent Dogleg Ni-Cu-Co discovery

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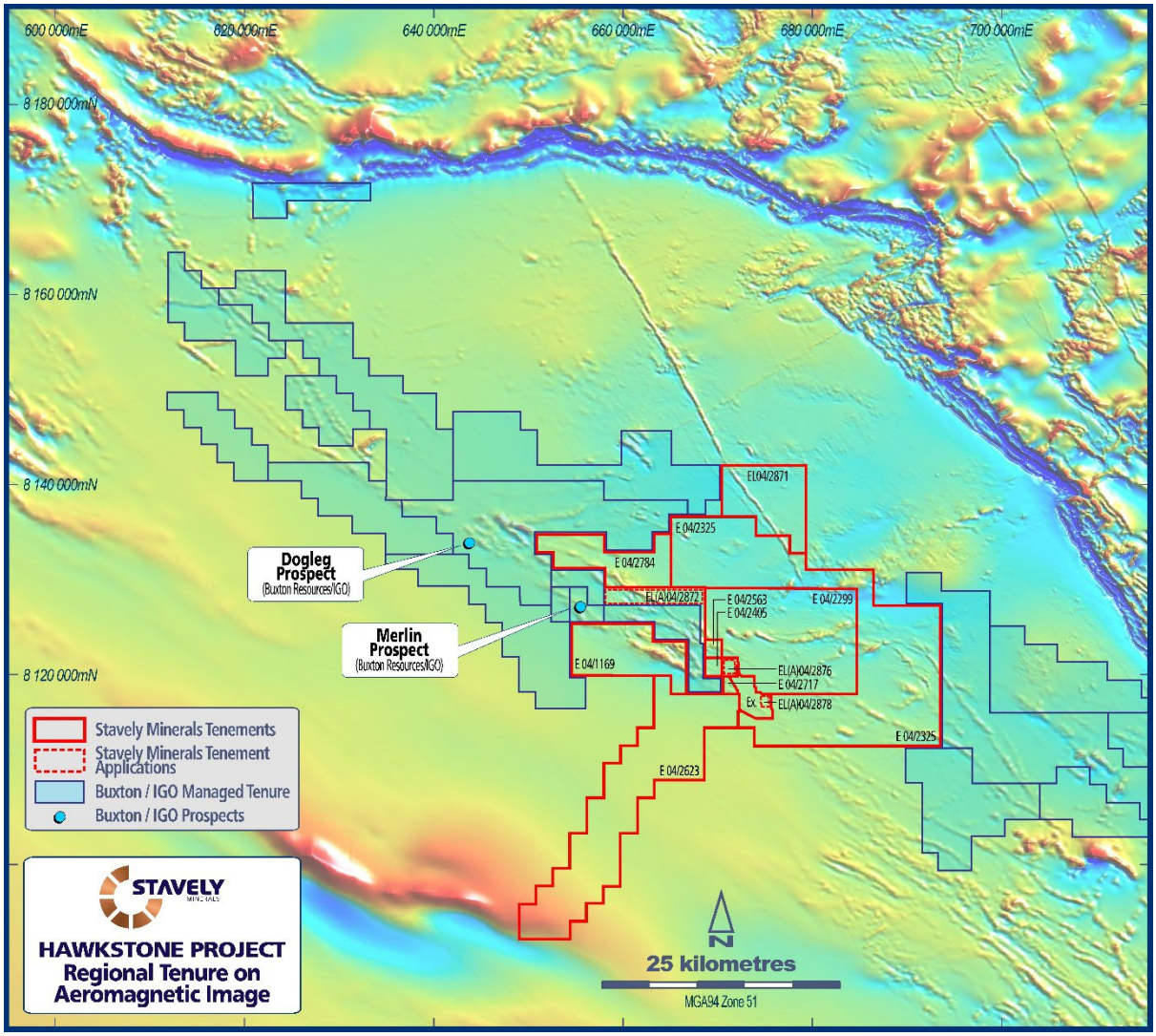

Figure 3. Hawkstone Project location map relative to IGO-controlled tenure and the Merlin (2015) and Dogleg (2023) nickel-sulphide discoveries overlaid on aeromagnetics.

is located a further 13km north-west of Merlin. Both discoveries are hosted in the Ruins Dolerite, which continues along strike for some 30 kilometres through the Hawkstone Project.

Of note in the Falcon gravity image is the very large gravity high ridge, interpreted to be an intermediate mafic magma chamber (~20km long), traversing Stavely Minerals' Hawkstone Project and the location of the Merlin Ni-Cu-Co discovery at one end of that gravity ridge (Figures 4 and 5).

The significance of this mafic magma chamber is that the bulk of the nickel-copper-cobalt mineralisation at the Nova Bollinger, Norilsk and Voisey's Bay mines is located at or near the base of mafic magma chambers (see Figures 6 and 7).

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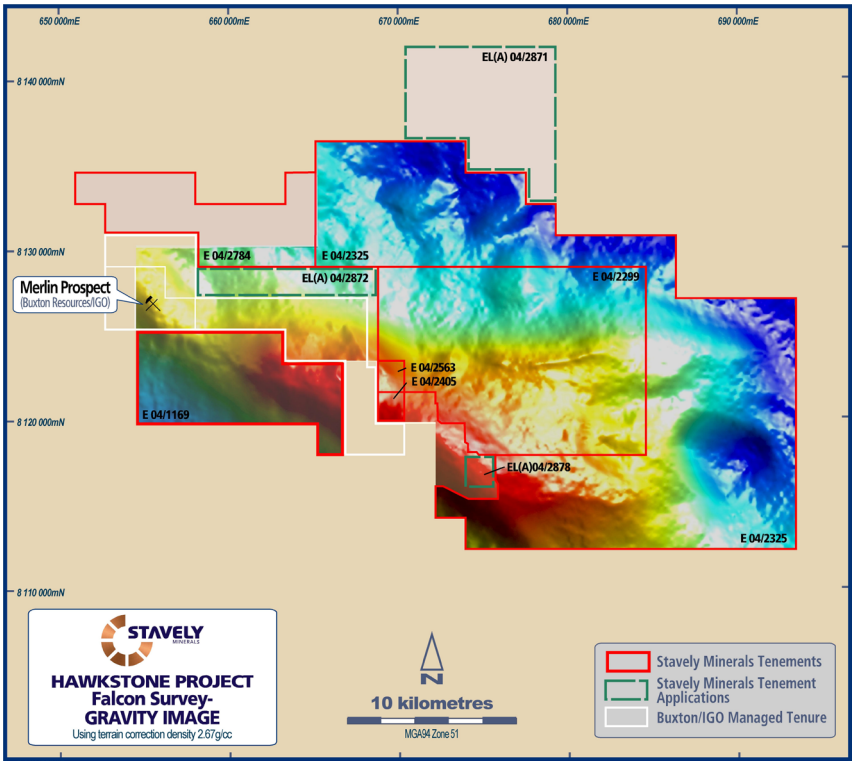

Figure 4. Hawkstone gravity image with original tenement outlines and the location of the Merlin Ni-Cu-Co discovery. The gravity high is interpreted to represent a mafic magma chamber at depth.

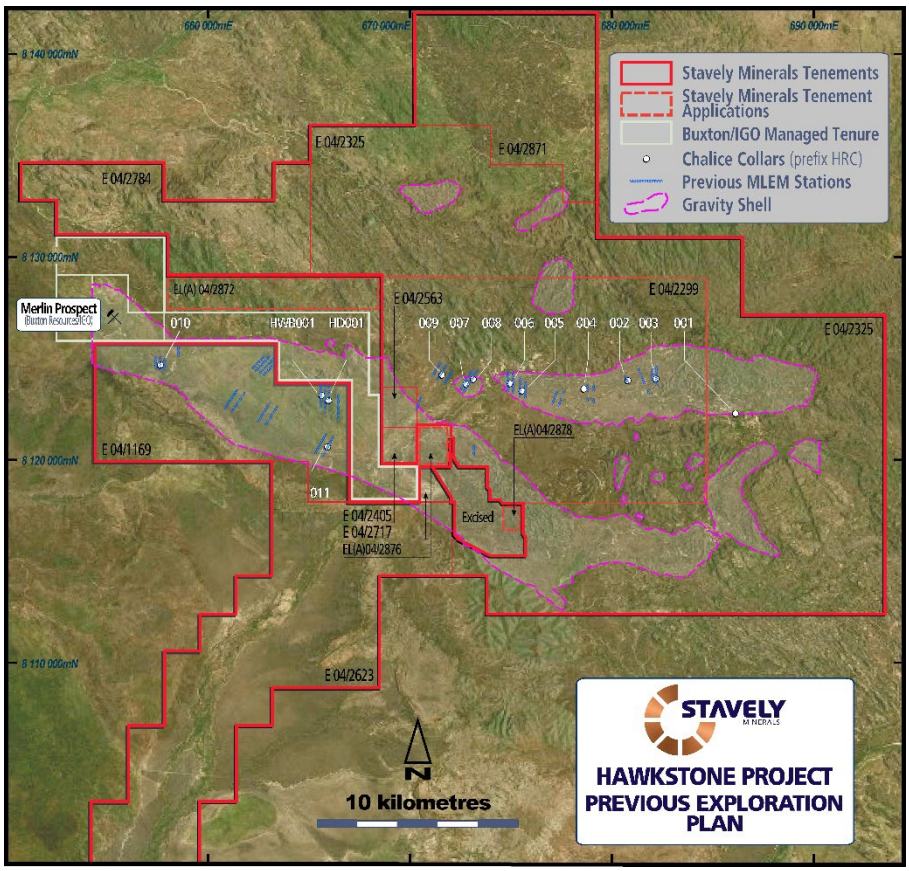

Figure 5. Detail map of Stavely Minerals Hawkstone Project tenements with the outline of the inferred deep mafic magma chamber as defined by >0.6g/cc gravity inversion density shell.

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History of The Merlin and Dogleg Ni-Cu-Co Discoveries

Initial mineral exploration focused on the Jack's Hill gossan. Two holes were drilled in the 1960s by Pickands Mather. No further work was conducted until 2007. Two RC drill programs and one ground EM survey highlighted widespread low-grade (typically ~0.2-0.4% Ni) sulphide mineralization near the gossan.

In 2013 a helicopter VTEM survey identified eight significant conductors, with five located within a ~1.5km radius and interpreted to be associated with the margins of a deformed intrusion, along strike to the north-west of the gossan. These five VTEM conductors were further followed up with ground EM which resulted in the definition of seven discrete bedrock conductors, A-G (now referred to as the Merlin Prospect).

A four-hole RC drill program was undertaken by Victory Mines Ltd to test these EM targets. Highly encouraging, significant nickel-copper sulphide mineralisation was intersected. All Ni-sulphide occurrences are EM conductors with coincident with gravity highs.

In 2015, Buxton Resources Limited acquired the Double Magic Project and undertook an intensive exploration programme. Buxton confirmed that the Ruins Dolerite unit hosts economic grades and widths of primary ortho-magmatic nickel-copper sulphide mineralisation.

Drill-hole DMRC0003 intersected **8m at 3.05% Ni, 1.88% Cu & 0.10% Co** from 50m drill depth, within a broader **17m zone at 1.78% Ni & 1.16% Cu** from 46m drill depth at the Merlin Prospect (Conductor D)[3].

This nickel exploration focus culminated in the discovery of the Double Magic Merlin Ni-Cu-Co deposit. This establishes the Ruins Dolerite, and the West Kimberley in general, as a de-risked, fertile and underexplored new magmatic nickel-copper-cobalt province. All nickel sulphide drill intercepts at the Merlin prospect have been coincident gravity and EM conductors[4].

In November 2023, at the Dogleg prospect, IGO drill tested a 15,000 Siemens MLEM conductor and intersected **13.85m @ 4.35% Ni, 0.34% Cu and 0.15% Co** from 177.34m, including **5.86m @ 7.47% Ni, 0.31% Cu and 0.25% Co**[5] in diamond drill hole 23WKDD003.

A follow-up drill hole, 23WKDD004, drilled 65m down-dip of the initial intercept was reported as having intercepted 2.85m of semi-massive sulphides[6] with assays reported last week[7] including **2.89m at 4.17% Ni, 0.83% Cu and 0.14% Co** from 233.63m down-hole.

Of particular note is the high-tenor of the Ni-Cu-Co mineralisation of ~8% Ni in massive sulphide. The tenor of Ni mineralisation can be a key factor in the economics of a magmatic nickel sulphide deposit. Tenor of Ni mineralisation is related to the efficiency of a magmatic process where the immiscible sulphide droplets are exposed to a volume of melt such that nickel, copper and cobalt is sequestered from the melt into the sulphide droplets that, with changes to magma velocity (often on entry to the magma chamber) the denser sulphide droplets settle to the base of the magma chamber.

It is the efficiency of this metals sequestration process that determines the Ni grade of the sulphides and explains the significant differences in tenor between deposits where that process has been

[3] Buxton Resources ASX announcement dated 2 November 2015
[4] Buxton Resources ASX announcement dated 14 June 2018
[5] Buxton Resources ASX announcement dated 6 November 2023
[6] Buxton Resources ASX announcement dated 19 October 2023
[7] Buxton Resources ASX announcement dated 01 February 2024

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efficient (i.e. high-tenor ~8% Ni at Merlin and Dogleg) or less efficient (i.e. lower-tenor ~3% Ni at Savannah[8]).

Potential Similarities to Voisey's Bay

The Merlin/Double Magic Ni-Cu-Co discovery and the more recent Dogleg discovery are magmatic nickel style of sulphide mineralisation.

The generalised model for formation of a magmatic Ni-Cu deposit requires (Figure 6):

1. Emplacement of a deep seated typically mafic magma chamber,
2. Ascent of magma through a sulphur-rich stratum introducing sulphur to the melt,
3. Sequestering of Ni and Cu from the melt into immiscible sulphide droplets entrained in the magma flow, and
4. Flow of the sulphur droplet bearing magma into dykes and intermediate chambers where the velocity of magma travel reduces and allows precipitation of the heavy sulphide droplets to the base of dykes and magma chambers.

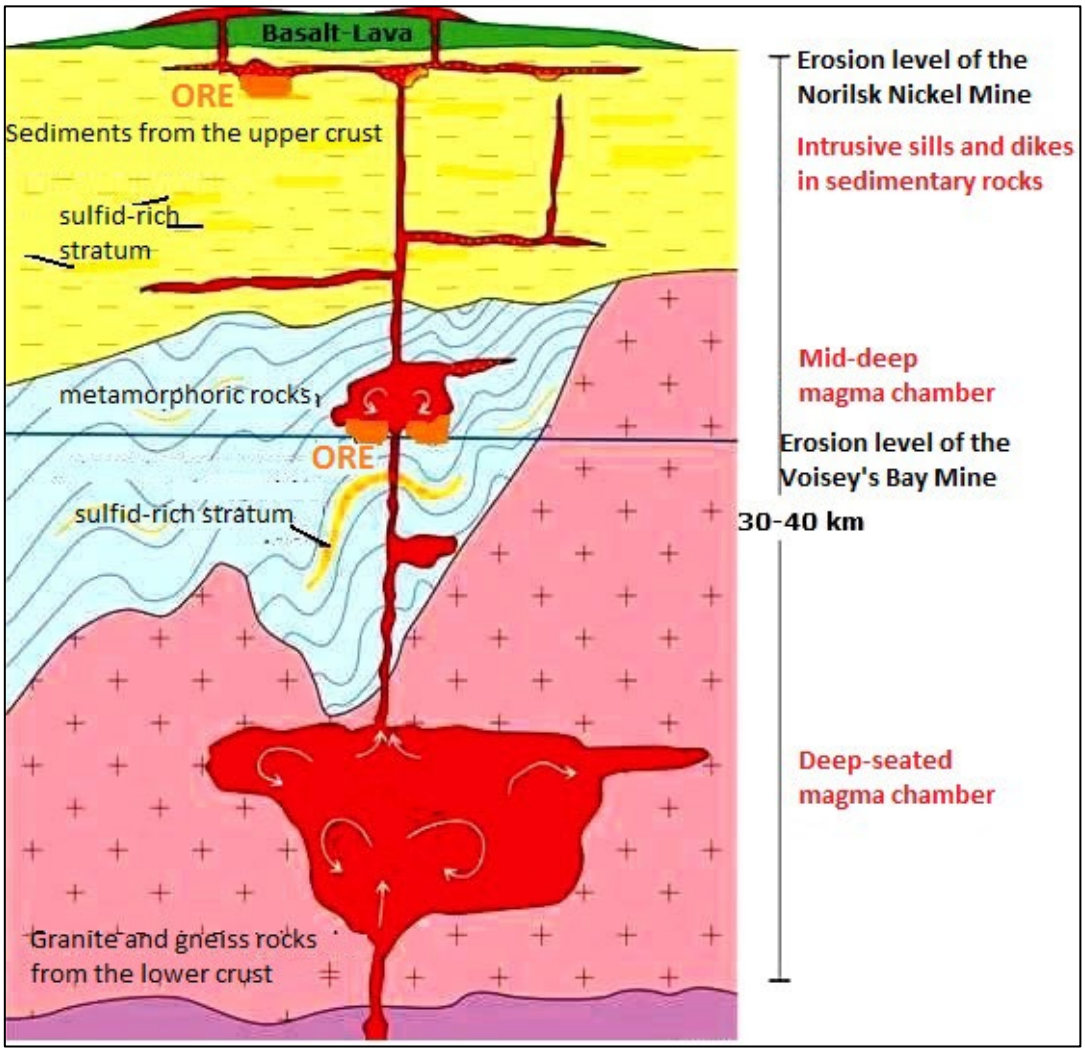

Figure 6. Generalised model for formation of a magmatic Ni-Cu deposit (source: The Korelin Economics Report on the Voisey's Bay Discovery).

[8] Le Vaillant et al., 2020, Multidisciplinary study of a complex magmatic system: The Savannah Ni-Cu-Co Camp, Western Australia, Ore Geology Reviews, Vol. 117

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Given the proximity of the Merlin/Double Magic Ni-Cu-Co discovery, and now the Dogleg discovery, Stavely Minerals has high confidence that the processes 1-4 described above have occurred in the Ruins Dolerite and that the Hawkstone Project hosts some 30 kilometres of strike of the ruins Dolerite that has been very lightly explored to date.

The large gravity anomaly traversing the Hawkstone Ni-Cu-Co Project could be reflecting a large magma chamber at depth and, if the Merlin/Double Magic Ni-Cu-Co mineralisation were equivalent to the Voisey's Bay Discovery Zone in a chamber-linking dyke, a model where the large gravity anomaly/potential magma chamber at the Hawkstone Project could host mineralisation in an analogous position to that of the Eastern Deeps at Voisey's Bay (Figure 7).

The Nova/Bollinger Ni-Cu-Co deposits are likewise associated with a mafic magma chamber[9] evident in the gravity data (Figure 8). This mafic magma chamber/nickel sulphide precipitation hypothesis will be tested by a deep 800m diamond drill-hole that is the subject of a up to $220,000 WA Government EIS co-funding grant[10].

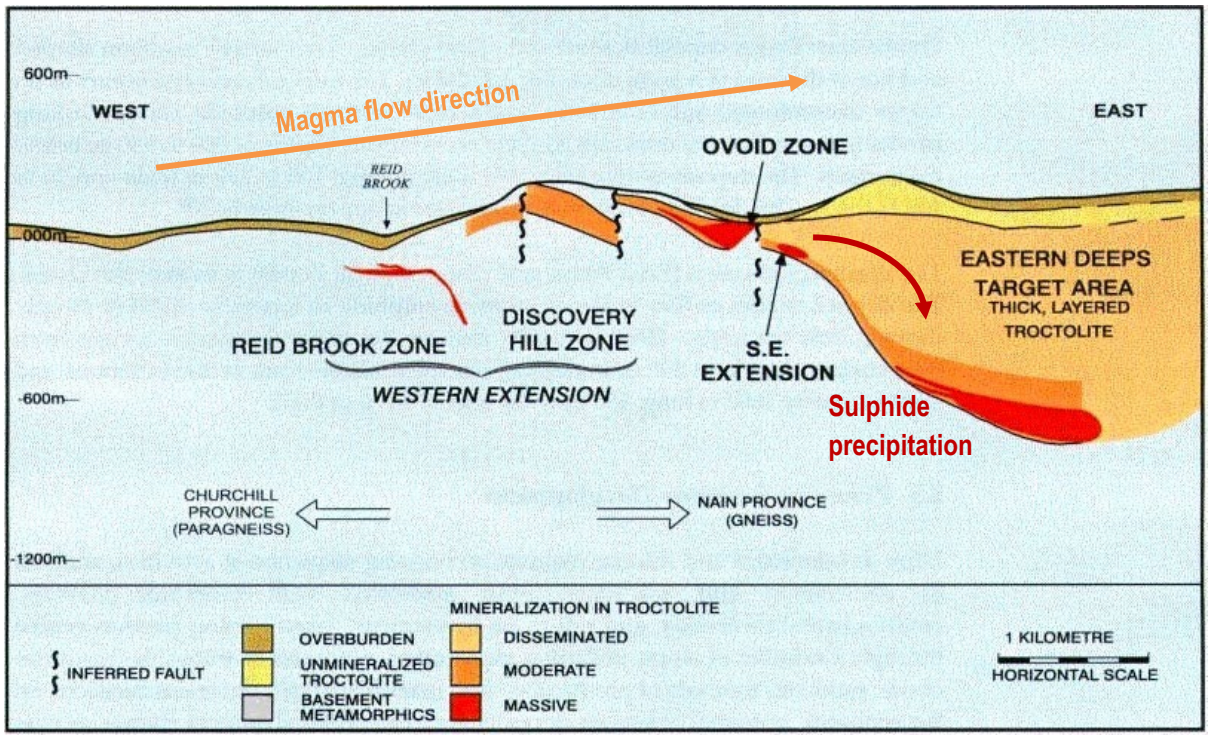

Figure 7. Schematic long-section of the Voisey's Bay Ni-Cu deposit in Labrador, Newfoundland. The Eastern Deeps nickel-sulphide mineralisation is formed by a change of flow velocity as the magma enters the Eastern Deeps magma chamber causing the denser immiscible sulphide droplets to precipitate to the bottom of the magma chamber (image source: The Korelin Economics Report on the Voisey's Bay Discovery).

[9] Bennett, M. et. al., 2014, Motive, Means and Opportunity: Key factors in the discovery of the Nova-Bollinger magmatic nickel-copper sulfide deposits in Western Australia
[10] SVY ASX announcement 14 November 2023

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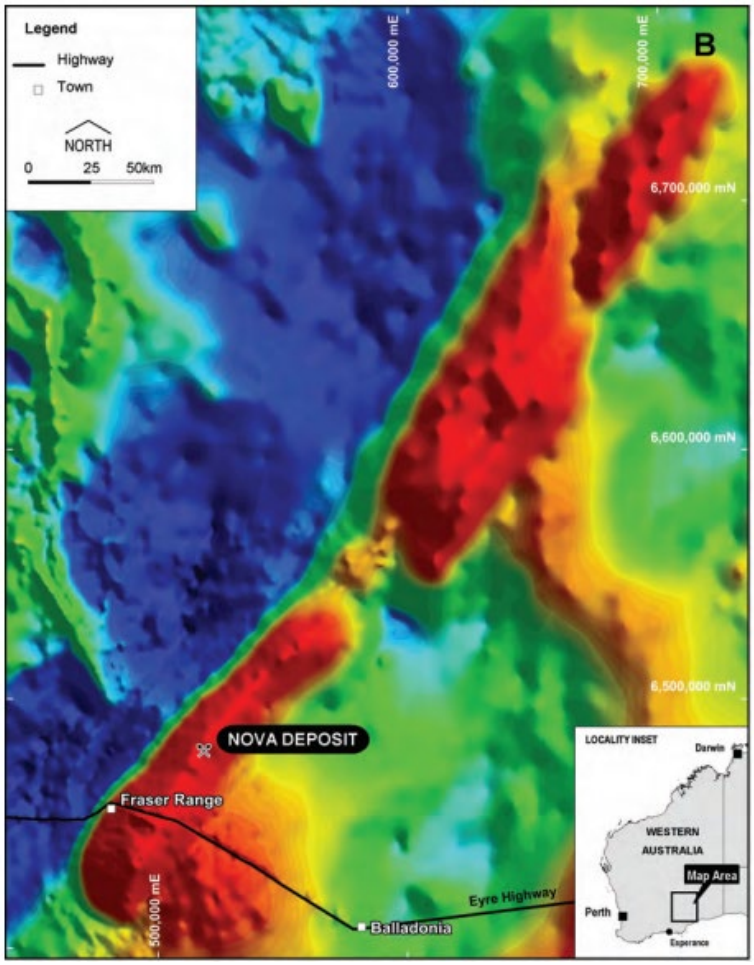

Figure 8. Gravity image showing the gravity high associated with the Nova/Bollinger mafic magma chamber.

Yours sincerely,

Chris Cairns
Executive Chair and Managing Director

The information in this report that relates to Exploration Targets, Exploration Results, Mineral Resources or Ore Reserves is based on information compiled by Mr Chris Cairns, a Competent Person who is a Fellow of the Australian Institute of Geoscientists and a Fellow of the Australasian Institute of Mining and Metallurgy. Mr Cairns is a full-time employee of the Company. Mr Cairns is Executive Chair and Managing Director of Stavely Minerals Limited and is a shareholder and option holder of the Company. Mr Cairns has sufficient 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'. Mr Cairns consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

Authorised for lodgement by Chris Cairns, Executive Chair and Managing Director.

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