North Stawell Minerals

March 2024 Quarterly Activities Report

26 April 2024

Company Details:

ASX: NSM
ACN: 633 461 453
www.northstawellminerals.com

Capital Structure
Shares: 139.875M
Performance rights: 1.81M
Share Price $0.045*
Cash: $1.34M*
Market Cap: $6.29M*
** at 31 Mar 2024.*

Project
North Stawell Gold Project

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Highlights:

- **EL5443 (36% of tenement footprint) has been renewed for 5 years.**
- **Prioritised planned drilling** focusses on highly strategic holes at Wildwood and Darlington.
- **Additional research commenced to better understand Wildwood (honours project)**
- **Mineral systems** (petrology) and **machine learning** projects continue to advance with discussion around next steps on-going.
- **Undertaking discussions and reviewing additional regional exploration opportunities with a view to acquire or farmin.**

OVERVIEW

North Stawell Minerals Chief Executive Officer Russell Krause commented:

"A challenging quarter for NSM, but we've continued to progress our corporate and operations positions, with significant focus on capital raising to support operations. Activities have been tailored to mitigate medium-term risks.

A $2M non-renounceable entitlement offer secured $0.985M by end-December 2023. Continued (and additional) funding opportunities are being pursued.

EL5443 – 36% of NSM's tenement area – has been renewed for an additional 5 years.

Planned drill-testing of two key prospects – southern Wildwood and Darlington have been pushed backward – a necessary recalibration of NSM's activities commensurate with funding activities. However, both targets remain priorities and benefit from most recent drilling (June Quarter 2023) that improve geological interpretation and understanding with increased interpreted similarities to Stawell-type mineralisation.

At Wildwood, structures intersecting the Wildwood basalt can be extended into untested areas (step-outs from the 87koz Au Mineral Resource (ASX:NSM 29 June 23)). Areas where there is an opportunity for mineralisation to spill onto the flanks of the basalts where larger volumes of mineralisation can occur are a key target.

The basalt intersected 100m beneath the drilled mineralisation at Darlington is of particular interest to the geology team (ASX:NSM 26 July 23). The possibility that the Darlington mineralisation is a splay off Stawell-type mineralisation at depth matches the "Mariners-type" mineralisation at Stawell, the uppermost part of the multi million-ounce gold system at Stawell that has been mined to 1,600m.

Without active drilling, NSM has continued to build on its drill targeting and planning. Over 4,500m of diamond drilling and more than 40,000m of air core drilling has been designed to continue to test these targets and will be completed as funding permits against NSM's priorities and project pipeline. An honours project (Federation University) commenced, focused on Wildwood. Data systems have been reviewed, and discussions have continued to extend collaboration with CSIRO. During the Quarter, NSM geologists were seconded to the Stawell Gold Mine, building invaluable knowledge of the targeted geology and mineralisation.

NSM has continued discussions for M&A opportunities, focussed on gold projects within the economic footprint of the processing plant at Stawell (ASX:NSM 01 Dec 23.) These discussions are continuing. Any material developments will be advised to the market as and when appropriate.

We continue working with our stakeholders and landholders to ensure we are communicating and liaising with the community with regards to exploration and on-field activities.

Market conditions remain challenging, but the work done in the quarter is invaluable for future programs."

CORPORATE ACTIVITES

During the Quarter, corporate activity has focused on a number of areas including R&D Tax Incentive, Interim Financial Reporting, corporate governance, merger and acquisition opportunities and capital raising.

The Interim Financial Report for the half year ended 31 December 2023 was completed in March and announced to the ASX on 13 March 2024(ASX:NSM 13 Mar 24).

NSM continues to review gold projects in the Stawell region within commercial transportation distance from the Stawell Gold Mine. There are several opportunities that are of interest. Non-Disclosure Agreements have been signed and commencement of the Company's due diligence process. Should the due diligence process provide a sound basis for progressing, final review and negotiation of the commercial terms of the possible transaction will commence. If agreement is reached, it will be communicated to shareholders and the ASX.

Mr Graham Brown, non-executive director resigned effective 31 March 2024 to pursue other interests.

FINANCE

During the quarter, the Company announced that a Research & Development Tax Incentive Application was granted. The Application resulted in a refund to the Company in mid-January of $257,000. (ASX:NSM 17 Jan 24).

The Corporate and operations team reviewed prior period expenditure during the Quarter looking for areas of opportunity to build a more efficient and effective plan, team and forecast given the intended exploration objectives and current funding status. The effect of this review is visible during the March 2024 Quarter and will extend into the June 2024 quarter.

During the quarter, NSM recognised transaction costs associated with the net entitlement offer shortfall - capital raising of $127,700, recognised $199,800 cashflow on exploration and evaluation activities, receipt of the Research and Development Tax Incentive of $257,000 and recognised insurance premium funding as a loan facility. Net cash outflow from operating activities was $446,200. Related party expenditure included director fees and associated superannuation payments totalling $42,200. The closing cash balance at 31 March 2024 was $825,400.

EXPLORATION ACTIVITIES

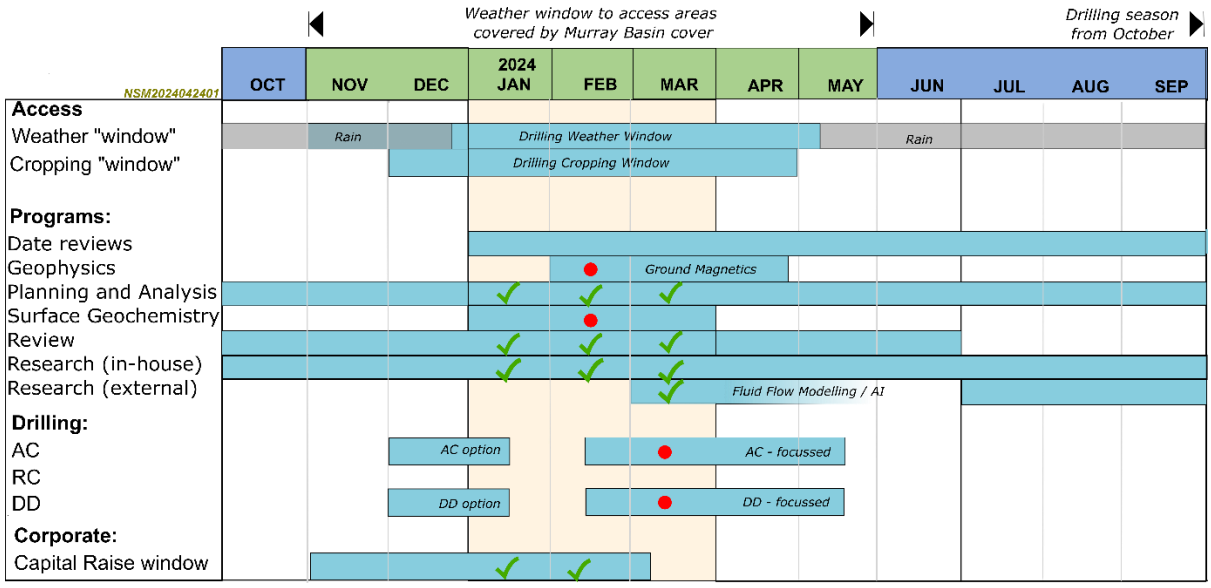
The highly strategic Exploration Licence EL5443 (Barrabool) has been approved for a period of 5 years (until 25 Nov 2028) (Figure 1, Appendix 1). The tenement represents 36% of NSM's exploration portfolio north of Stawell. Several key prospects – Lubeck Tip, Challenger, Old Roo, Gready and Lubeck – are on the footprint of the licence, as well as other prospective targets. EL5443 also has significant potential to host Heavy Mineral Sands and rare earth minerals (HM-REE) within the shallow portions of the Murray Basin cover sediments.

Work done and work planned is summarised in Table 1. Unrestricted drilling access is typically from December to May. Planned holes at key targets - Wildwood and Darlington - were deferred and will be revived as market conditions improve. Geologist secondments and field staff restructure impacted field work outcomes.

Activities focussed on refining and expanding drill targeting and proposals, geological support for corporate activities, opportunities to improve data systems and rehabilitation checks of past activities. Over 40km of air core and 4,500m of diamond drilling have been planned and documented. However, into 2024, programs are tailored to focus on priority targets. The NSM project pipeline, summarises priorities (Figure 8).

Discussion continued with external science organisations for collaborative work, and an honours project with Federation University was started with the commencement of the academic year, focused on better understanding the Wildwood mineralisation. The secondment of geologists to the Stawell Mine was an excellent opportunity to significantly expand NSM's knowledge of the mine geology and mineralisation.

Table 1 Planned and completed work. Green ticks indicate progress as planned. Red circles indicate postponement of cancellation of activities.



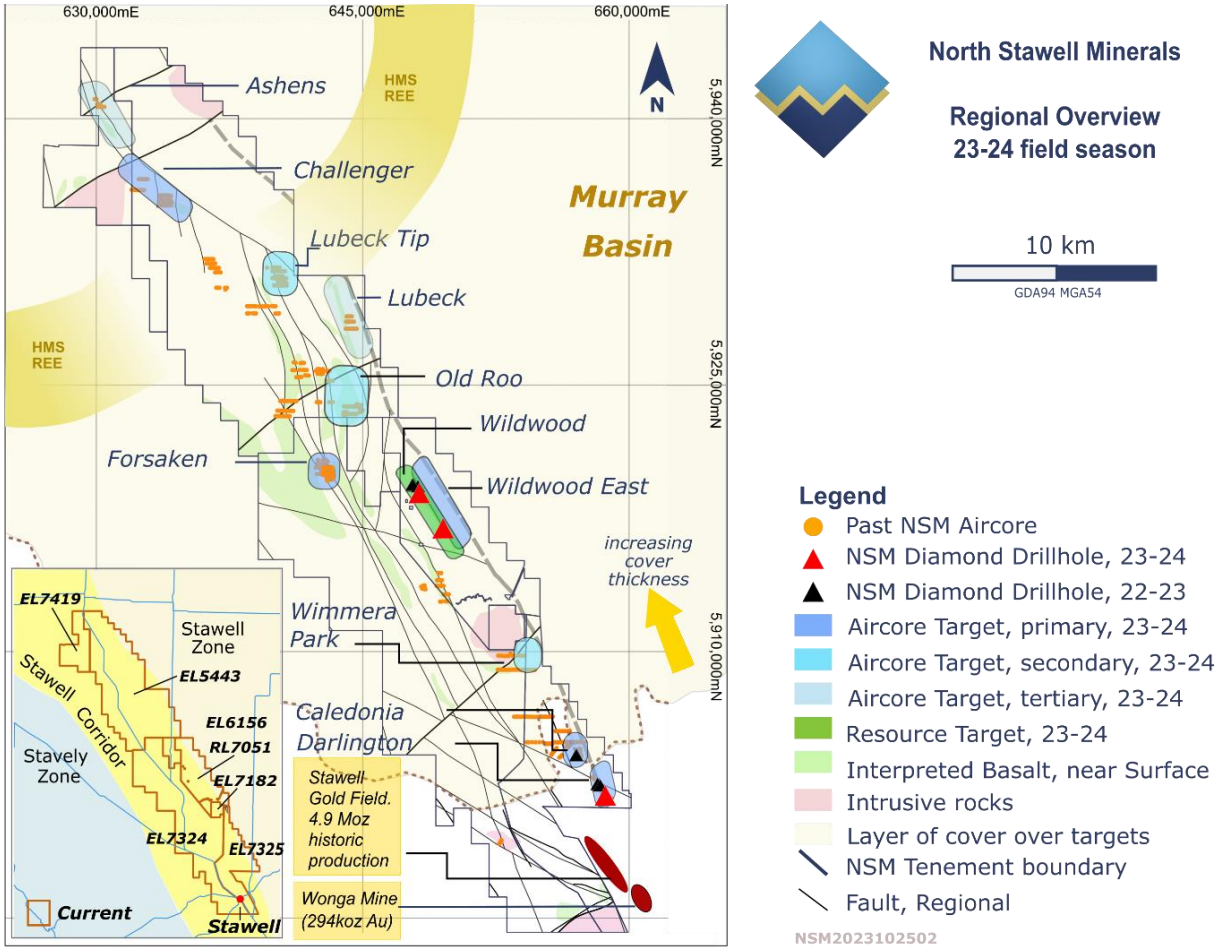


Figure 1 Overview of NSM tenements showing work done during the quarter and key prospects.

PRIORITY TARGETS

Following the update of the Wildwood Mineral Resource (87,300oz Au at 2.4 g/t Au (1 g/t cutoff) (ASX:NSM 29 June 23)), additional focus has been applied to review the potential of the project, which is open in several areas. Focus included, based on new interpretation and new drill data:

- Infill, near-resource and new opportunities around **Wildwood** to expand the Mineral Resource as well as test for extensions of structural targets.
- Focused geological review of the controls on mineralisation (including thin section work)

The mineralisation at Wildwood occurs on the margins of a structurally buttresses basalt (the same controls as at the historic 5Moz mineralisation at Stawell). Mineralisation is focussed where two parallel vertical structures intersect the basalts. The targets are interpreted to propagate to the north and south, reversing plunge depending on the orientation of the basalt Figure 2 shows the structural targets as well as previous drilling. Untested corridors are identified.

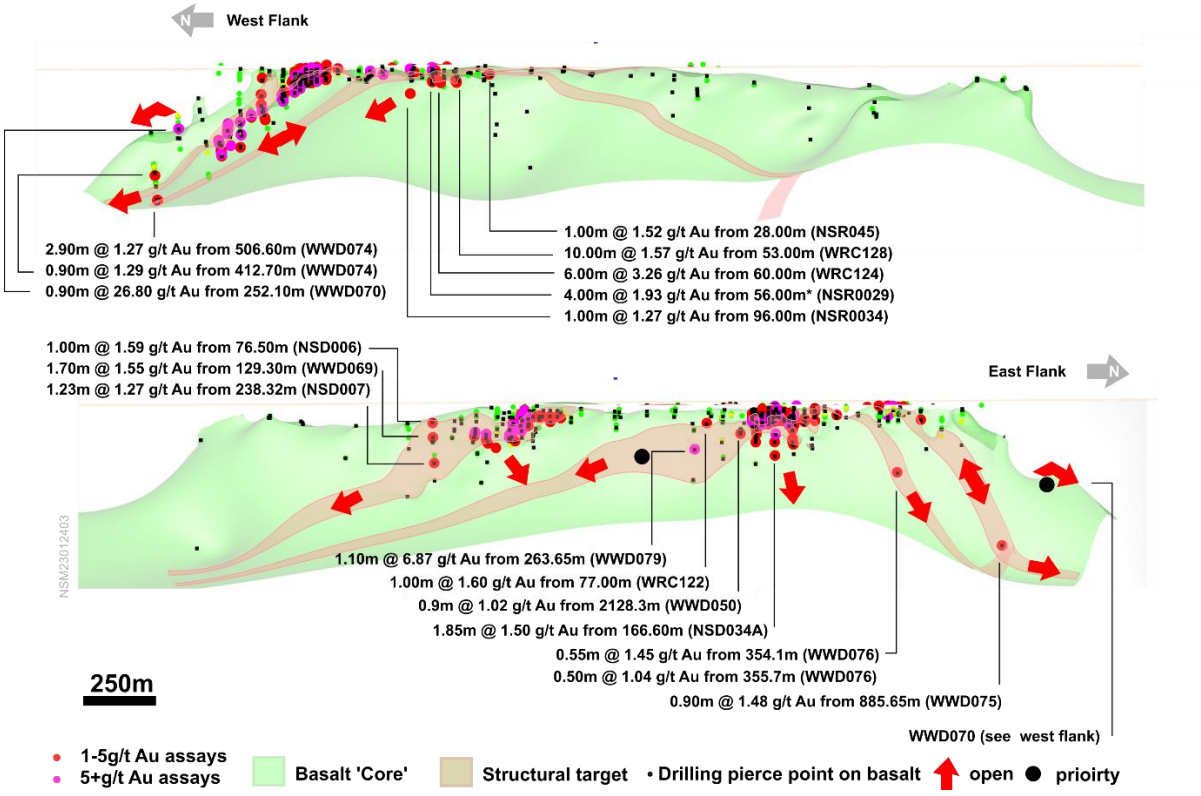


Figure 2 Targets and drilling at Wildwood. Interpreted controlling structures are brown. All results are previously released (ASX:NSM 15 Nov 23)

A key target for continued work at Wildwood is to find mineralisation that occurs on the flanks of the basalt and is not within embayments (called Waterloos) in the basalts. The advantage to these targets is that the mineralisation can have significantly increase volume and, therefore, increase in potential ounces. Targets on the east flank of the basalt, where the basalt and mineralised structures are sub-parallel are considered most likely to nucleate slabs of flank mineralisation. These are identified and queued for drill-testing.

Figure 3 shows a comparison between the Stawell mineralisation and the Wildwood mineralisation at the same scale and highlights the exploration potential at Wildwood. Wildwood is effectively tested to a depth of 100m (black dots indicate drilling (Figure 3).

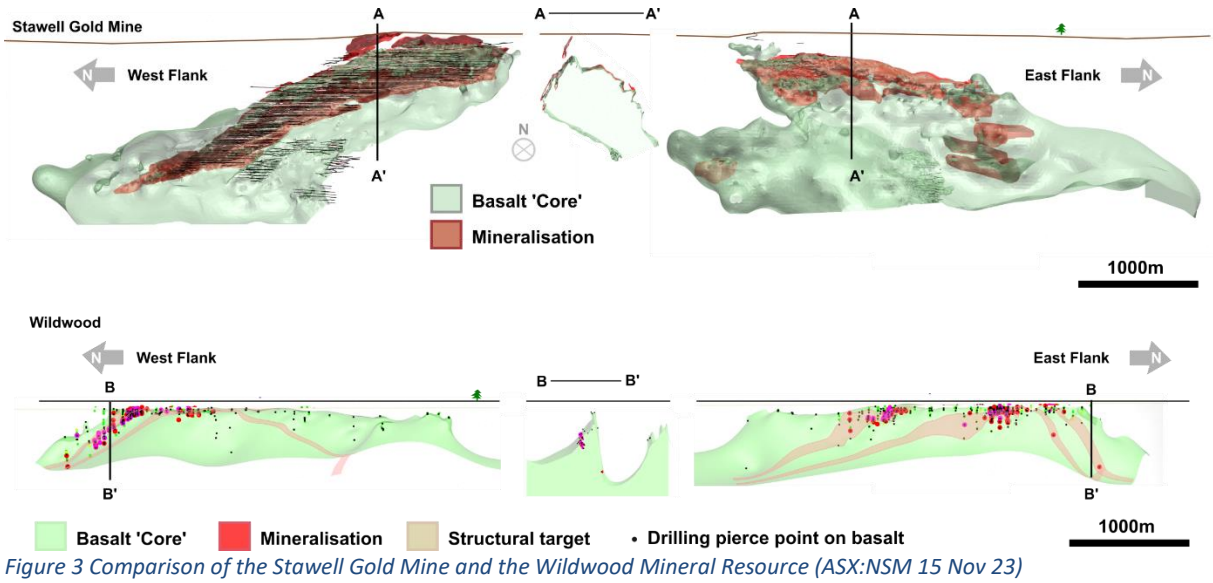


Figure 3 Comparison of the Stawell Gold Mine and the Wildwood Mineral Resource (ASX:NSM 15 Nov 23)

The Wildwood Mineral Resource remains unchanged and is open along structures and down-dip in several area, and has limited deeper drill-testing (Figure 3):

Table 2 Wildwood Mineral Resource 2023[1]

	Tonnes (t)	Grade (g/t Au)	Ounces (oz Au)
Inferred	564,600	2.4	42,700
Indicated	590,300	2.4	44,600
Total	***1,154,900***	***2.4***	***87,300***

[1]ASX:NSM 29 June 23.

Notes:

- *All resource figures are reported in accordance with the JORC Code 2012 Edition*
- *All figures are rounded to reflect the appropriate levels of confidence, with apparent differences potentially occurring due to rounding.*
- *Mineral Resources are reported at a 1.0 g/t Au cutoff grade.*

At **Darlington**, 6km north of Stawell, NSM has planned holes to test the deeper gold potential where the down-plunge projection on the historic Darlington Mine (2,347oz Au at 18.2 g/t Au)) is interpreted to intersect the recently identified basalt at depth (ASX:NSM 28 Mar 23). A structural link between the basalt and the surface mineralisation would significantly increase the likelihood of a Stawell-type gold system (Figure 4), a priority for the Darlington prospects exploration potential. The result may be amplified the interpretation that the basalt intersected beneath Darlington is the structurally dismembered continuation of the Magdala Basalt – the same basalt that host the mineralisation at Stawell, 6km to the south (Figure 4).

Darlington also remains open down-dip with mineralisation intersected at 125m and remaining open (ASX:NSM 26 July 23). An interpreted fault may truncate or offset the system to the north. The controlling basalt continues 2km to the south, presenting a large potential system similar to Stawell.

500m southeast of the historic mine, an additional target identified from numerical modelling CSIRO, (ASX:NSM 31 Oct 23, 29 Aug 23, 31 Jul 23) is untested, and is modelled to include increased potential to host gold (Figure 4). Holes are planned throughout the Darlington target, but only the highly strategic basalt-structure intercept is currently prioritised.

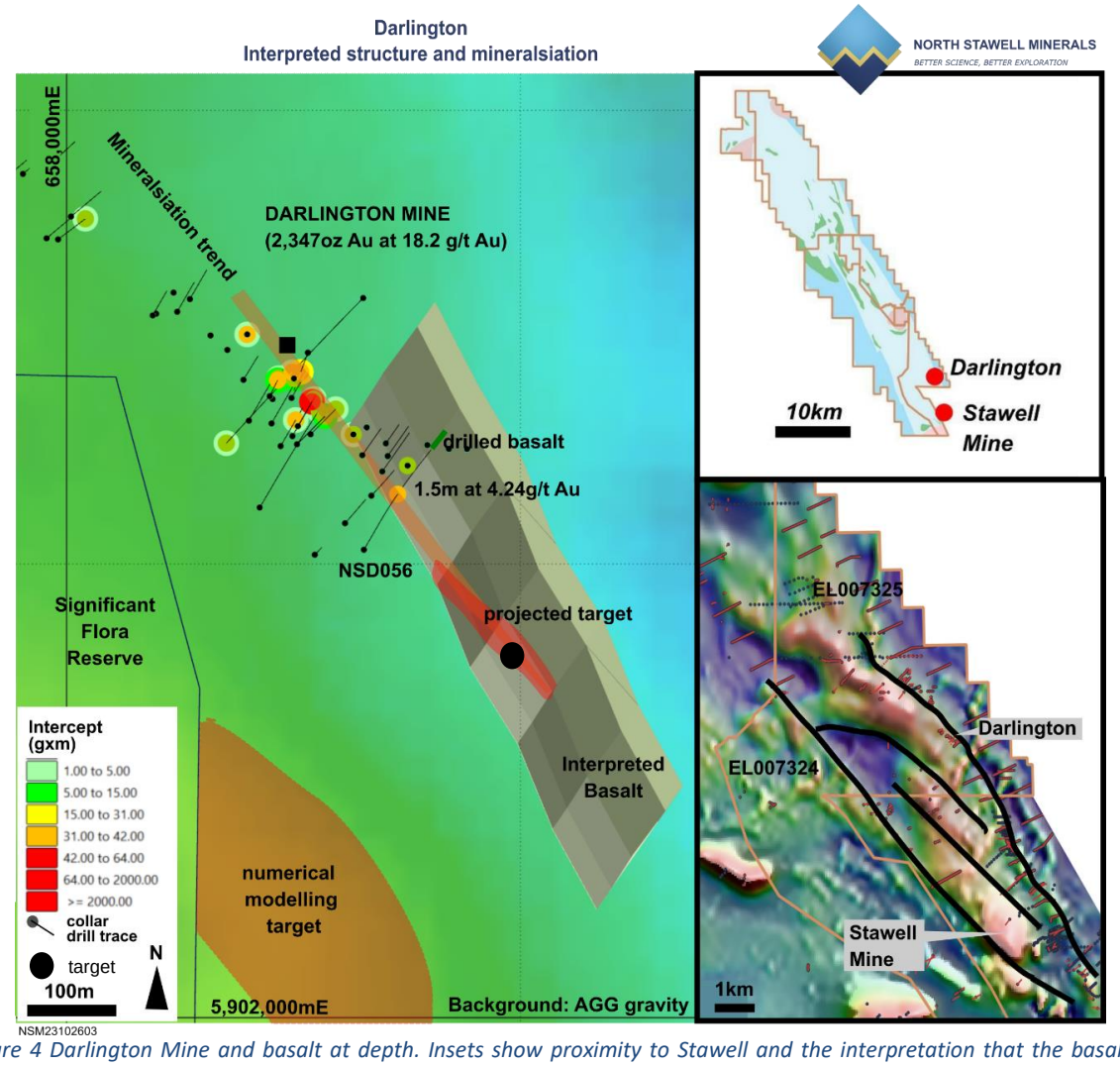


Figure 4 Darlington Mine and basalt at depth. Insets show proximity to Stawell and the interpretation that the basalt at Darlington is the same basalt as the one hosting mineralisation at Stawell (the Magdala basalt).

SECONDARY TARGETS

Secondary targets have this designation because of a longer pathway to possible resource declaration. They are still highly prospective targets. Regional air core drilling over the last two seasons has consolidated a robust project portfolio, based on the Stawell-gold mode (ASX:NSM 8 June 2021) (Figure 8).

The **Forsaken and Caledonia** targets are priorities for near-surface (air core) drilling. Both targets stand out regionally as having near-surface significant, contiguous gold grades (+1g/t Au) and are interpreted to conform to a Stawell-gold model (ASX:NSM 31 July 23, 1 June 23, 16 Feb 23) . These targets remain open, and establishing near-surface extents is a pre-cursor to deeper drilling establishing continuity and plunge.

Forsaken includes the structurally complex northern 1,500m of a 9km long, north-plunging gravity anomaly, and is interpreted to be the drag-fold of a gold-prospective basalt into a regionally significant fault. The target is over 500m long at surface and is structurally attractive for gold, evidenced by grades in historic drilling (1+ g/t Au) results, thick anomalous intercepts and end-of-hole grades (ASX:NSM 1 Jun 23). **Caledonia** is an NSM discovery beneath shallow cover, shallow-drilled and including 600m strike length of gold mineralisation open to the north and down-dip (ASX:NSM 31 Oct 23).

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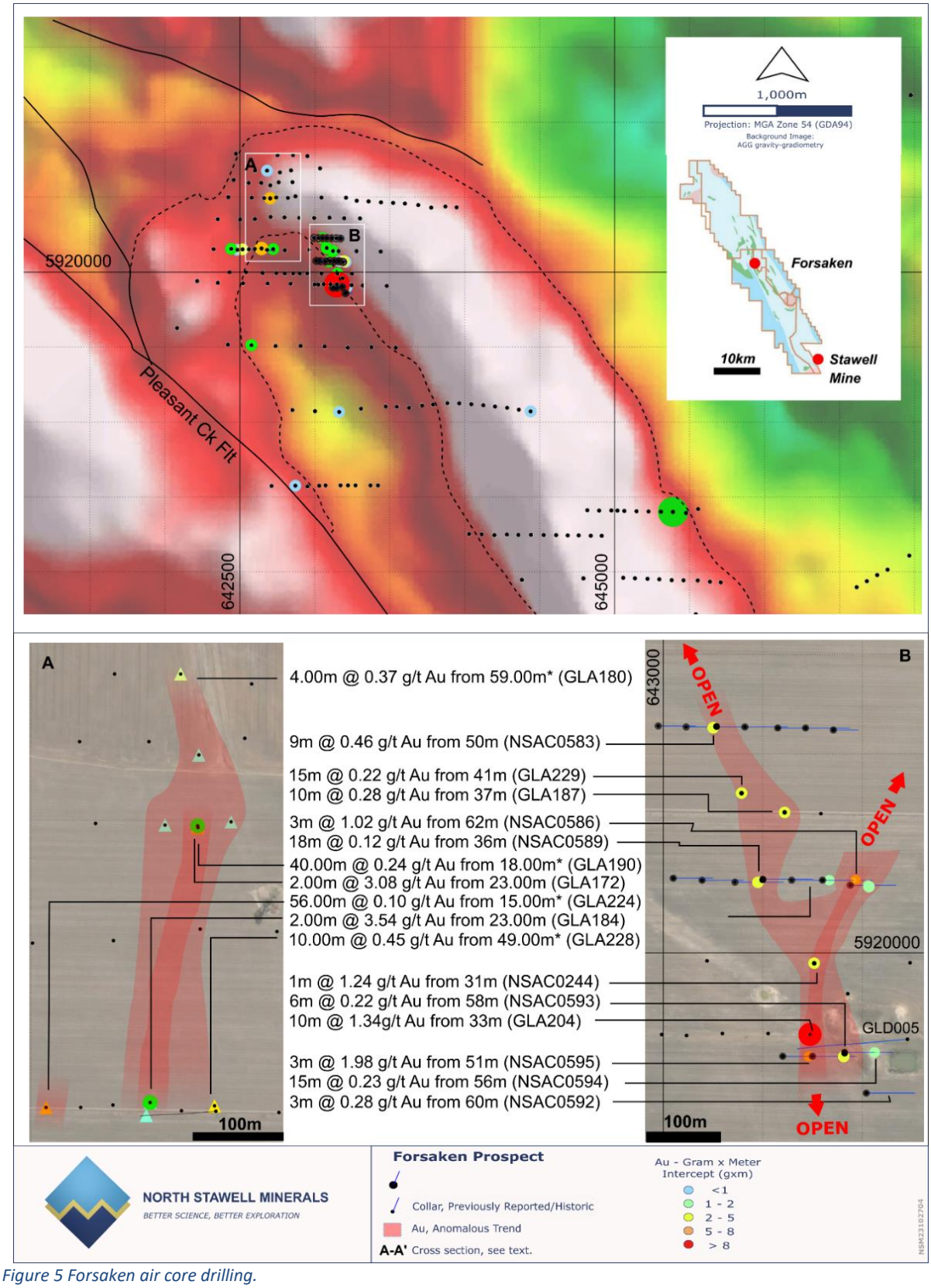

Figure 5 Forsaken air core drilling.

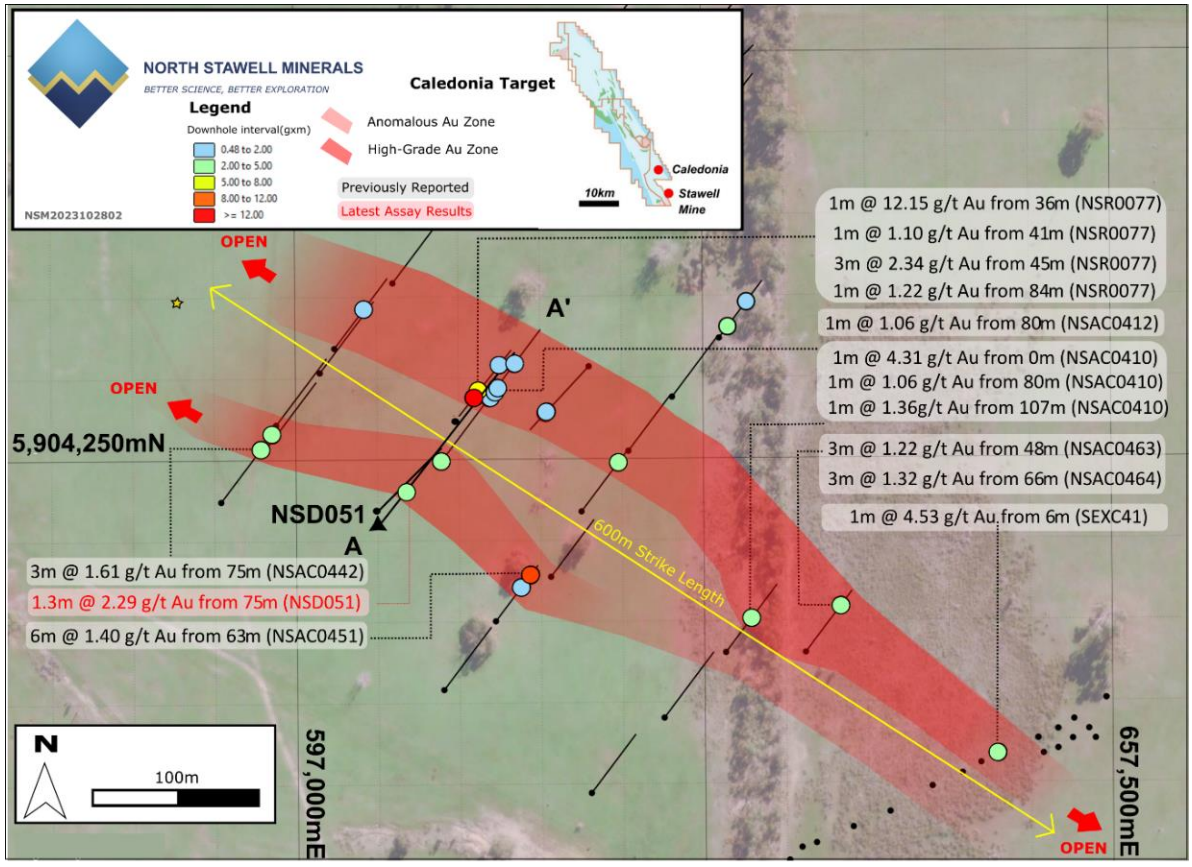

Figure 6 Caledonia plan (ASX:NSM 31 Oct 23)

ADDITIONAL TARGETS

The **Lubeck Tip** target is an NSM discovery, identified with geophysics through cover. Air core drilling has intersected the interpreted controlling basalts in the north of the target, immediately beneath 30m of cover and interpreted to plunge to the south – a target with significant potential for shallow mineralisation. Anomalous gold has been returned over 800m and significant grades (>1g/t Au) occur over 100m on the east side of the basalt, open down-plunge.

The northern **Challenger** target has significant potential. The 7km long basalt has 3km of strong arsenic anomalism with multiple thick anomalous gold intercepts or end-of-hole anomalous gold intercept that are very positive indicators for a significant gold system. Designed drilling during the season is tasked to continue to test for significant grades on this large, challenging, Stawell-type gold target.

The **Wimmera Park** target (ASX: 20 July 22) is a regional reconnaissance drilling success that could not be accessed in the 22-23 drilling season. The target is a 300m wide arsenic and gold anomalous zone on the intersection of the eastern margin of the Wimmera Park granite and major regional faults-oriented NNW and NE. The geology interpreted structure and geochemistry include significant similarities to the Wonga Mine, 20km south (294koz Au at 3.4g/t Au^2)(Stawell Gold Mines). Wonga is interpreted as an intrusive-related gold system (Bierlein et al 2005). The comparable intrusive at Wimmera Park is readily identified through the thin cover with geophysics, presenting a compelling, poorly tested exploration target.

The possibility of poly-metallic (Cu-Au- Zn-Ag) Volcanic-hosted Massive Sulphide (VHMS) is also noted (occurring as Besshi-type VHMS in similar geology in the southern Stawell Corridor (off NSMs tenements).

GEOPHYSICS

Geophysics, and derivative products have proven excellent vectors to mineralisation through cover and remain a key exploration tool.

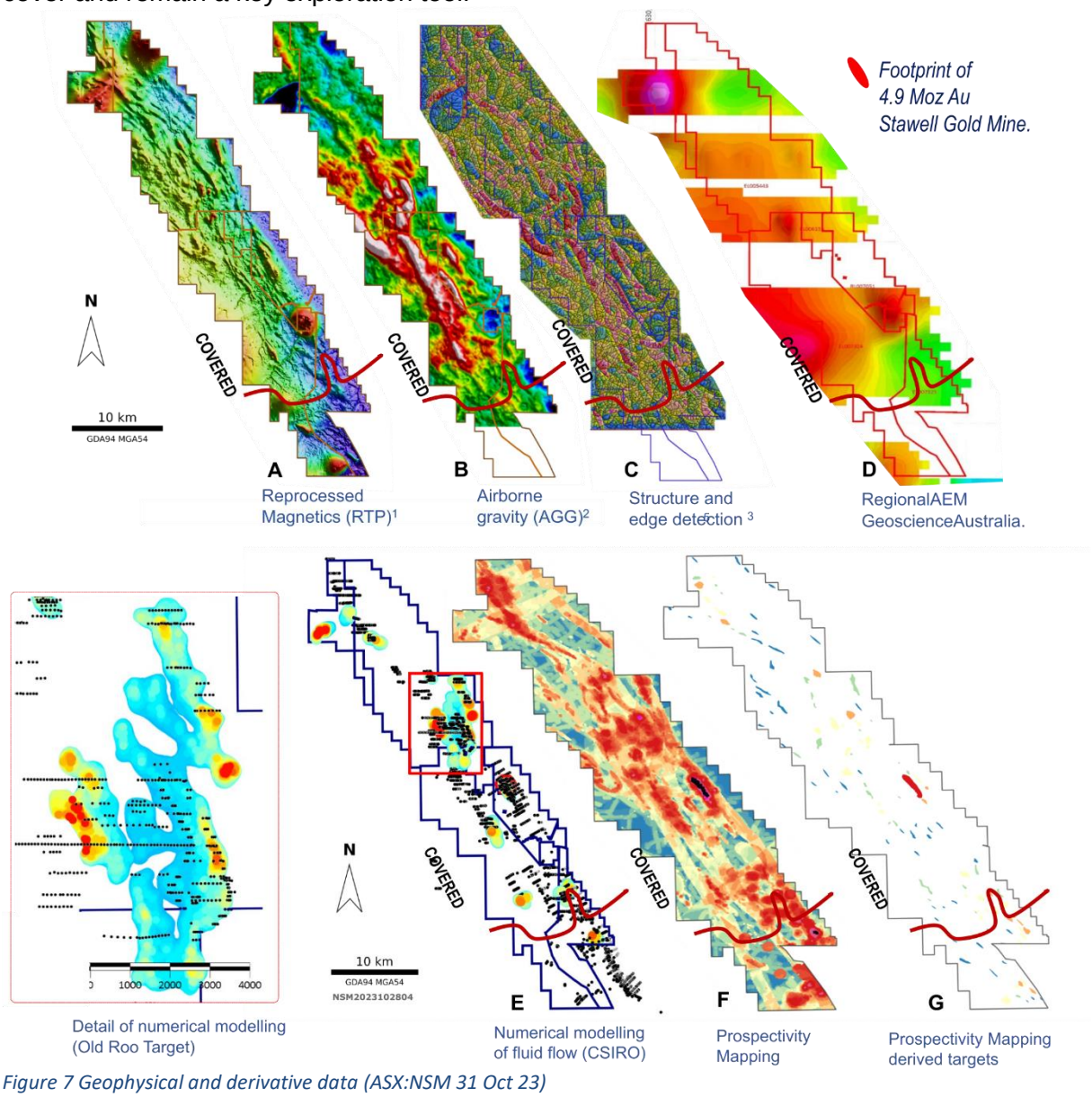

Figure 7 Geophysical and derivative data (ASX:NSM 31 Oct 23)

High resolution gravity data (ASX:NSM 8 Jun 21), derivative 3D modelling of interpreted basalts (ASX:NSM 29 Oct 2021), numerical modelling of fluid flow around inversion models to identify dilation sites (ASX:NSM 21 June 23, 23 Mar 23) and government high-resolution magnetics data continues to effectively vector to Stawell-type gold mineralisation through the blanket of thin cover that obscures the gold-prospective geology throughout the tenements.

BETTER SCIENCE

NSM values the science that informs and refines its programs and continues to advance several projects.

A **regional TEM** electromagnetic survey completed by Geoscience Australia was flown in late 2022 and processed results released in 2023 (GA 2023). External review of the data against other datasets indicates that cover sequences obscure basement responses. However, data also indicates that the EM data might assist in determining thickness of cover.

On the drill hole scale, a **mineral chemistry and metallogenesis** project is reviewing the multi-phase pyrrhotite–pyrite–carbonate–arsenopyrite–chlorite and multiple deformations present complicated structural and alteration systems. A suite of petrology samples (from recent drilling from Wildwood and within the Stawell Mine) have been taken to identify key controls and pathfinders to gold at Wildwood. Most recently, this work has included petrology studies completed by Mintex Petrological Solutions in advance of the commencement of an honours student from Federation University, focussed on the mineralisation at Wildwood.

NSM continues work to determine the science to apply **machine learning research** to map out the masked geology and structure north of Stawell. The project benefits from the acquisition of regional, high-resolution potential field datasets, regional data derived from exploration, existing relationships with researchers and research organisations active in this area, and the recruitment of a geoscientist with data science qualifications. Next steps are in discussion and will be resolved in the first quarter of 2024. Meanwhile, data cleaning to support the project continues.

HEAVY MINERAL SANDS – RARE EARTH ELEMENTS (HMS-REE)

Heavy mineral sand (HMS) potential may extend across the centre of the NSM tenements (EL5443) (Figure 1, Appendix 1)). The ground, continuously held by gold explorers since 1999, has only 30 HMS-REE focussed drill holes on its footprint - an under-tested exploration opportunity.

There are multiple, rapidly advancing HMS-REE projects in the district, and we recognise the concern and potential for fatigue amongst our landholders. We value our strong community support. As a gold-focussed explorer, any moves to test HMS potential will include careful and appropriate community consultation.

EXPLORATION STRATEGY

NSM's target is mineralisation with gold grades and mineralisation characteristics that are "matched" to the mill at Stawell – which are demonstrated as economically viable ore-types.

NSM's target is shallow repeats of the multi-million-ounce mineralisation at Stawell, where the geology is masked and preserved by a thin blanket of unmineralised sediments (called "cover"). The Stawell Mine has been a modern operation for 40 years and is well-researched and well-understood (see Winterbottom 2017). Stawell-type mineralisation occurs in two areas: on the margins of buttressed basalt that force gold-bearing structures to wrap around them, creating dilation and focussing gold-deposition, and as splays of mineralisation that bifurcate off the basalt (called Mariners-type) and propagate into the surrounding sedimentary rocks – particularly above the basalt buttress.

The basalt is important for exploration – basalts can be "seen" beneath cover and at depth using geophysics. 60kms strike of basalts are identified, half of which are un-tested.

Using the Stawell-type model, NSM's approach is simple - Identify potential basalts using high resolution gravity and magnetics data. If basalt is intersected, focus on the margins where mineralisation is expected and systematically follow mineralisation to depth (e.g., Wildwood).

If the basalt is deeper and overlying sediments intersected, drilling is focussed on the possibility of Mariners-type mineralisation, which, that can be systematically followed to depth to identify where the system has splayed off the controlling basalt (e.g., Darlington, Lubeck Tip). Figure 9 presents the relative positions of NSM's target portfolio superimposed on a simplified section of the Stawell Mine (Stawell-type gold mineralisation model).

The exploration strategy has focussed on delivering a robust exploration pipeline (Figure 8), and future work will both resolve resource potential and maintain a healthy exploration pipeline.

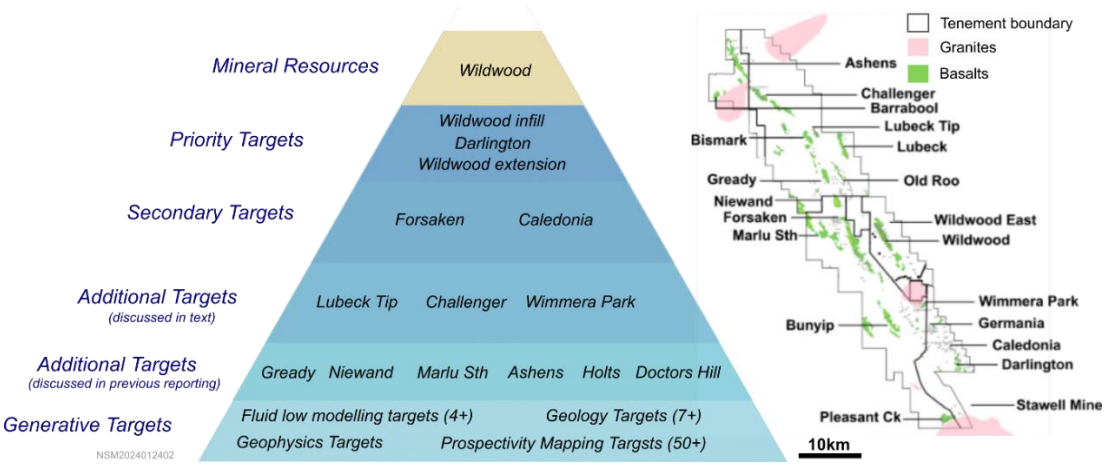

Figure 8 Project Pipeline

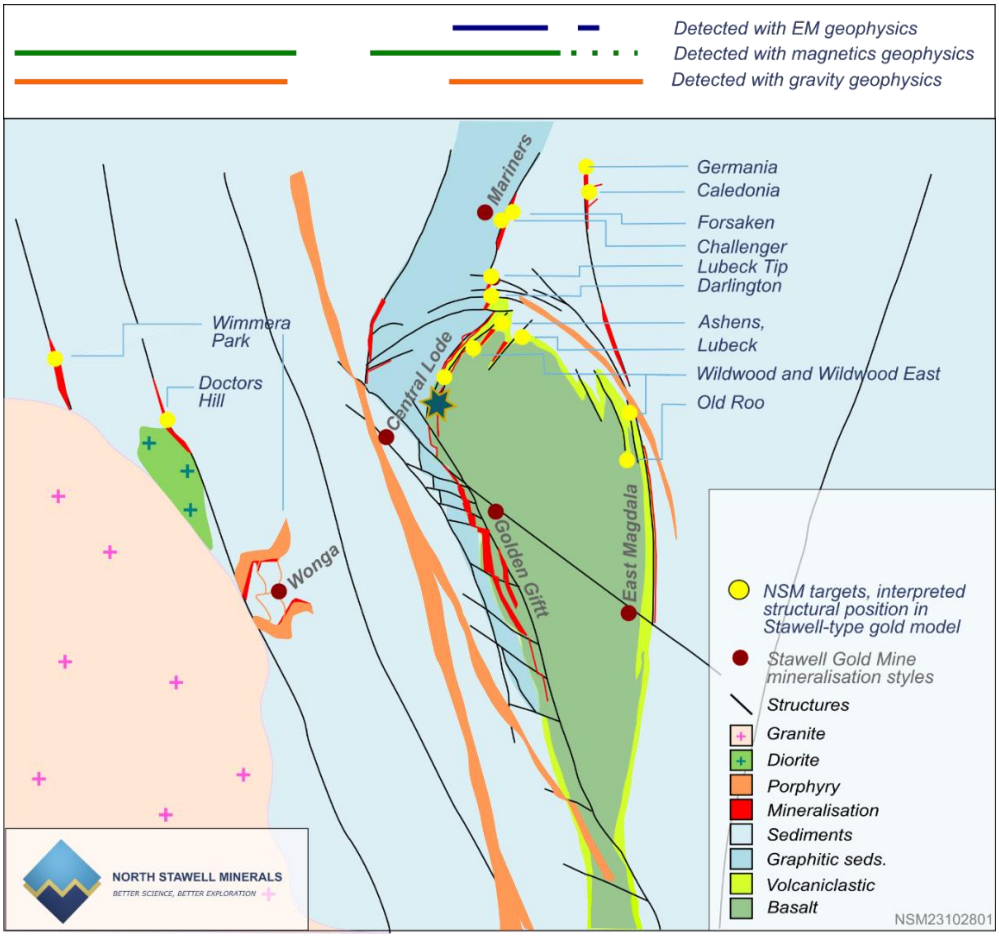

Figure 9 Schematic of Stawell mine showing relative interpreted position of NSM targets.

References

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This Announcement is authorised for release by Russell Krause, Chief Executive Officer of North Stawell Minerals Ltd

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About North Stawell Minerals Limited:

North Stawell Minerals Limited (ASX: NSM) is an Australian-based gold exploration company focused on discovering large scale gold deposits in the highly prospective Stawell Mineralised Corridor in Victoria.
The Company is exploring prospective tenements located along strike of, and to the immediate north of the Stawell Gold Field which has produced more than five million ounces of gold. NSM's granted tenure has a total land area of approximately 500 km^2. NSM believes there is potential for the discovery of large gold mineralised systems under cover, using Stawell Gold Mine's Magdala orebody as an exploration model to test 51km of northerly strike extension of the underexplored Stawell Mineralised Corridor.

Competent persons Statement

The information that relates to Exploration Targets, Exploration Results and Mineral Resources is based on information compiled by Mr Bill Reid, a Competent Person who is a Member of The Australian Institute of Geoscientists (AIG) and Head of Exploration of North Stawell Minerals. Mr Reid 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' (2012 JORC Code). Mr Reid consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

Forward-Looking Statements

This announcement contains "forward-looking statements" within the meaning of securities laws of applicable jurisdictions. Forward-looking statements can generally be identified by the use of forward-looking words such as "may", "will", "expect", "intend", "plan", "estimate", "anticipate", "believe", "continue", "objectives", "outlook", "guidance" or other similar words, and include statements regarding certain plans, strategies and objectives of management and expected financial performance. These forward-looking statements involve known and unknown risks, uncertainties and other factors, many of which are outside the control of NSM and any of its officers, employees, agents or associates. Actual results, performance or achievements may vary materially from any projections and forward-looking statements and the assumptions on which those statements are based. Exploration potential is conceptual in nature, there has been insufficient exploration to define a Mineral Resource and it is uncertain if further exploration will result in the determination of a Mineral Resource. Readers are cautioned not to place undue reliance on forward-looking statements and NSM assumes no obligation to update such information.

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167 Leviathan Road
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Appendix 1: NSM Tenement Summary

Tenement	Status	Number	Area (km2)	Graticules[1]	Initial NSM holding	Earn-in potential
Wildwood	Granted	RL007051	50	50	51%	90%
Barrabool	Renewal	EL5443	182	194	51%	90%
Glenorchy	Granted	EL006156	10	18	100%	n/a
West Barrabool	Granted	EL007419	37	40	100%	n/a
Wimmera Park Granite	Granted	EL007182	4.5	9	100%	n/a
Deep Lead	Granted	EL007324	167	209	51%	90%
Germania	Granted	EL007325	54	82	51%	90%
Total granted			504.5	602		

[1] Exploration Licence areas in Victoria are recorded as graticular sections (or graticules). Graticules are a regular 1km by 1km grid throughout the state. The graticular sections recorded for an exploration licence is the count of each full graticule and each part graticule. If the tenement shape is irregular, the actual area (km^2) is less than the graticular area.

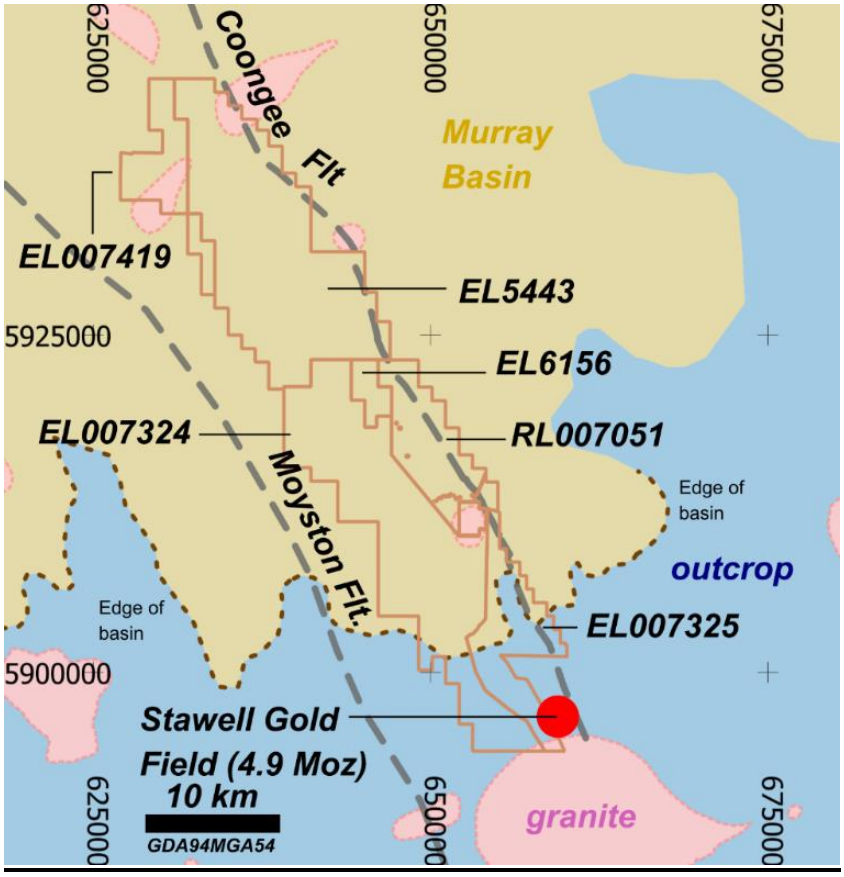

Figure 10 North Stawell Minerals - Tenements