



## Quarterly Report March 2023

### HIGHLIGHTS

#### Exploration

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##### Stavelly Project, Thursday's Gossan, Western Victoria

- Drilling of an initial panel of 4 x 800m diamond drill holes is progressing with two diamond drill rigs operating, based on a new interpretation of the location of a causative porphyry to the high-grade copper-gold Cayley Lode mineralisation.
- Titeline drillers have agreed to accept ⅓ of the estimated program cost in Stavelly shares.
- Deep diamond drill-hole SMD183 has been completed and intersected carbonate-base metal ± precious metal veining.
- SMD185 has intersected more intense carbonate-base metal ± precious metal veining than observed in SMD183. This style of mineralisation is typical of that observed in other drill-holes that have drilled under the plunge of the Cayley Lode.
- Deep diamond drill-hole 4 - SMD187 is currently in-progress.
- Deep diamond drill-hole 2 (SMD184 and SMD184W1) failed in bad ground conditions at ~400m drill depth, with the rig being moved 25m south to re-drill this important drill hole as SMD186 and SMD186W1 which also failed due to ground conditions.
- An alternate drill hole has been designed to test this target from an east-to-west drill direction that would avoid the problematic structural zone.
- This target zone has a number of prospective attributes including:
  - It is underlain by a discrete magnetic feature;
  - It is proximal to the intersection of north-south and north-west (Cayley Lode) structures; and
  - It sits below a significant copper-in-soil auger anomaly.

##### Stavelly Project, Regional Exploration, Western Victoria

- Follow-up air-core drilling conducted at the S41 prospect, which was co-funded by the Victorian Government TARGET Grant, returned significant gold, copper and silver assays with elevated base metals and pathfinder elements, including:

Air-core drill-hole STAC0115:

- 4m at 2.21g/t Au, 6.9g/t Ag, 0.10% Pb and 0.18% Zn from 96m, including:
  - 2m at 3.92g/t Au, 9.3g/t Ag, 0.18% Pb and 0.31% Zn from 98m; and
- 2m at 0.47g/t Au and 3.1g/t Ag from 140m to end-of-hole

- The air-core drill results and noted hydrothermal alteration have defined a large hydrothermal alteration system approximately 2km long in a north-west orientation with widespread sericite-silica-pyrite alteration and associated Au, Ag, Pb, Zn, As, Sb ± Cu ± Mo geochemical anomalism.
- The S41 prospect appears to host a large phyllic alteration system, possibly associated with a deeper porphyry, that has been overprinted by a high-level epithermal gold-silver-base metal-carbonate system.
- Air-core drilling at the Northern Flexure prospect has intersected 20m at 33.2g/t Ag from 12m drill depth in STGAC063, including 2m at 169g/t Ag from 12m.
- Air-core drilling at the Narrapumelap REE prospect has intersected 2m at 0.24% TREO+Y from 8m drill depth in STAC0099.

## Corporate

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- Stavelly Minerals had a total of \$3.9M cash on hand at the end of the March 2023 Quarter.

## OVERVIEW

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Due to the delays in commencing the field season as a result of the very wet ground conditions last Quarter, the first Quarter of 2023 was very busy with the regional aircore and soil auger sampling programs commencing, as well as the diamond drilling program at Thursday's Gossan.

Two diamond drill rigs were mobilised to the project area during January for a 4- hole diamond drilling program targeting the causative porphyry responsible for the formation of the Cayley Lode. The drilling has proven to be very challenging with only two (SMD183 and SMD185) of the 4 planned holes having been successfully completed to date. The southern-most hole in the panel of 4 holes (SMD184/SMD184W1) failed due to extremely difficult drilling conditions and the subsequent re-drill of this hole (SMD186/SMD186W1) also failed for the same reason. A third attempt to drill this hole will come at the target from the opposite direction. Drill hole SMD187 is still in progress.

Deep porphyry target diamond drill-hole SMD183 intersected a narrow interval of carbonate-base metal and possibly precious metal mineralisation (samples yet to be submitted), similar to previous holes that have drilled under the plunge of the high-grade copper-gold mineralisation in the Cayley Lode.

Similarly, but with a broader and more significant density of veins, deep porphyry drill-hole SMD185 has intersected carbonate-base metal and possibly precious metal mineralisation (assays pending) over an interval from 772m drill depth to 829m drill depth.

The aircore rig arrived on site in mid-January and conducted drilling operations throughout the Thursdays Gossan pull apart basin and other regional targets.

Targets tested during this phase include Junction 3, Drysdale, and the Northern Flexure (Figure 2). Drilling on these prospects intersected variable clay alteration, primary sulphides and some zones of secondary chalcocite enrichment. Assays and geology from this drilling will be used in our next round of targeting to vector towards a mineralised porphyry in the project area. The rig was then mobilised to Narrapumelap to test the Bucheran diorite for REE potential (Figure 2). Subsequent assays from this program were received confirming the REE anomaly appears contained within the soil horizon.

The AC rig then mobilised to regional targets at Fairview East, S41 and S29 (Figure 2). Drilling at Fairview East intersected the serpentinite contact close to trace fracture-controlled chalcopyrite within the andesite unit. The occurrence of this sulphide near the ultramafic contact is encouraging. This will be reviewed further once assays have been received. S41 has returned multiple holes with strong phyllic alteration, pyrite and quartz veining. The large footprint of the system is encouraging and will form part of our next round of targeting. In total 101 aircore holes were completed during Quarter.

A total of 204 additional soil auger samples were collected at the Narrapumelap REE target area during the Quarter. These samples will help confirm the potential for REE at the project moving forward.

Further infill soil auger sampling at Northern Flexure, Drysdale and Junction 1 was completed with a total of 176 soil auger samples collected.

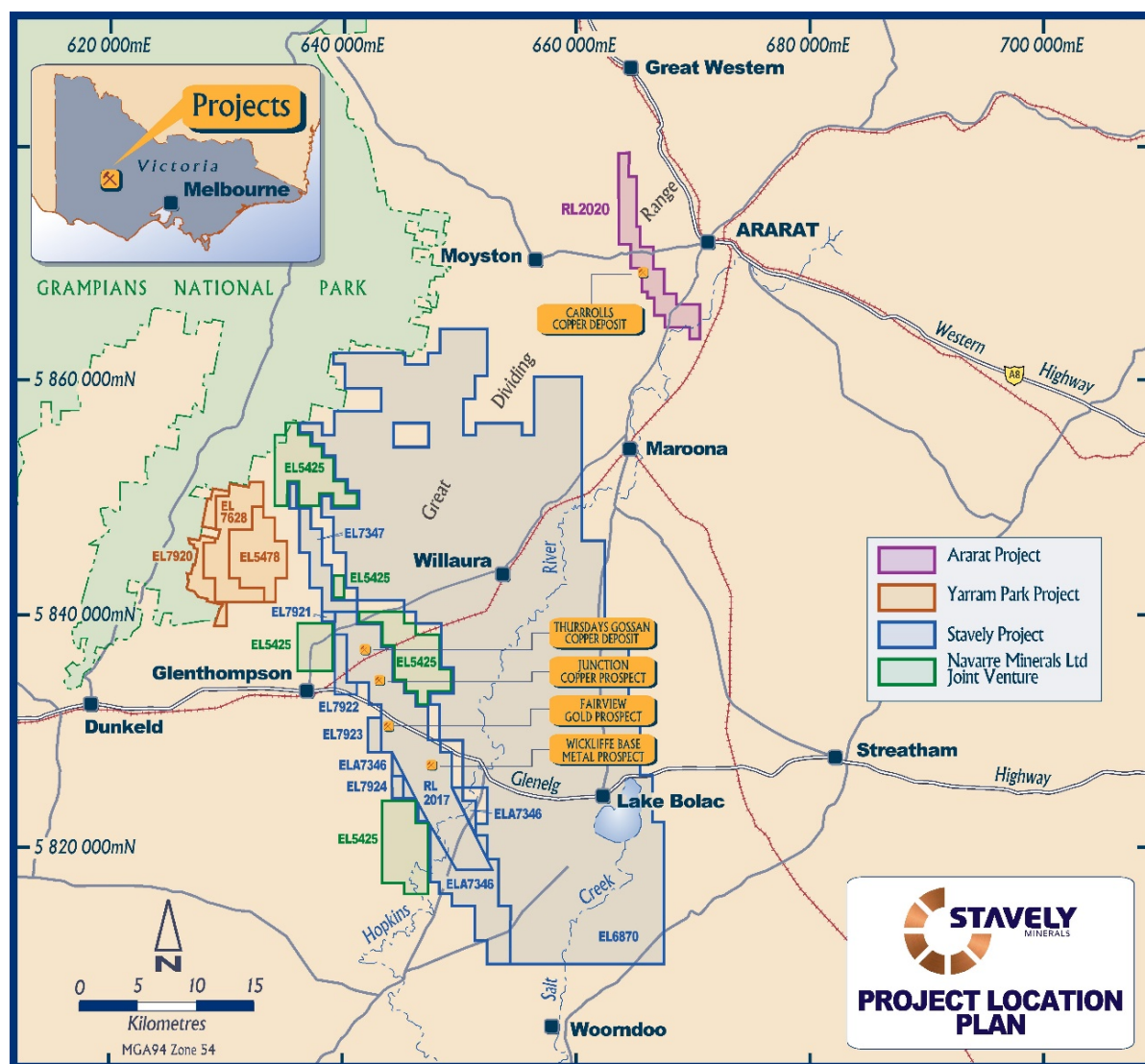


Figure 1. Western Victoria Project location plan.



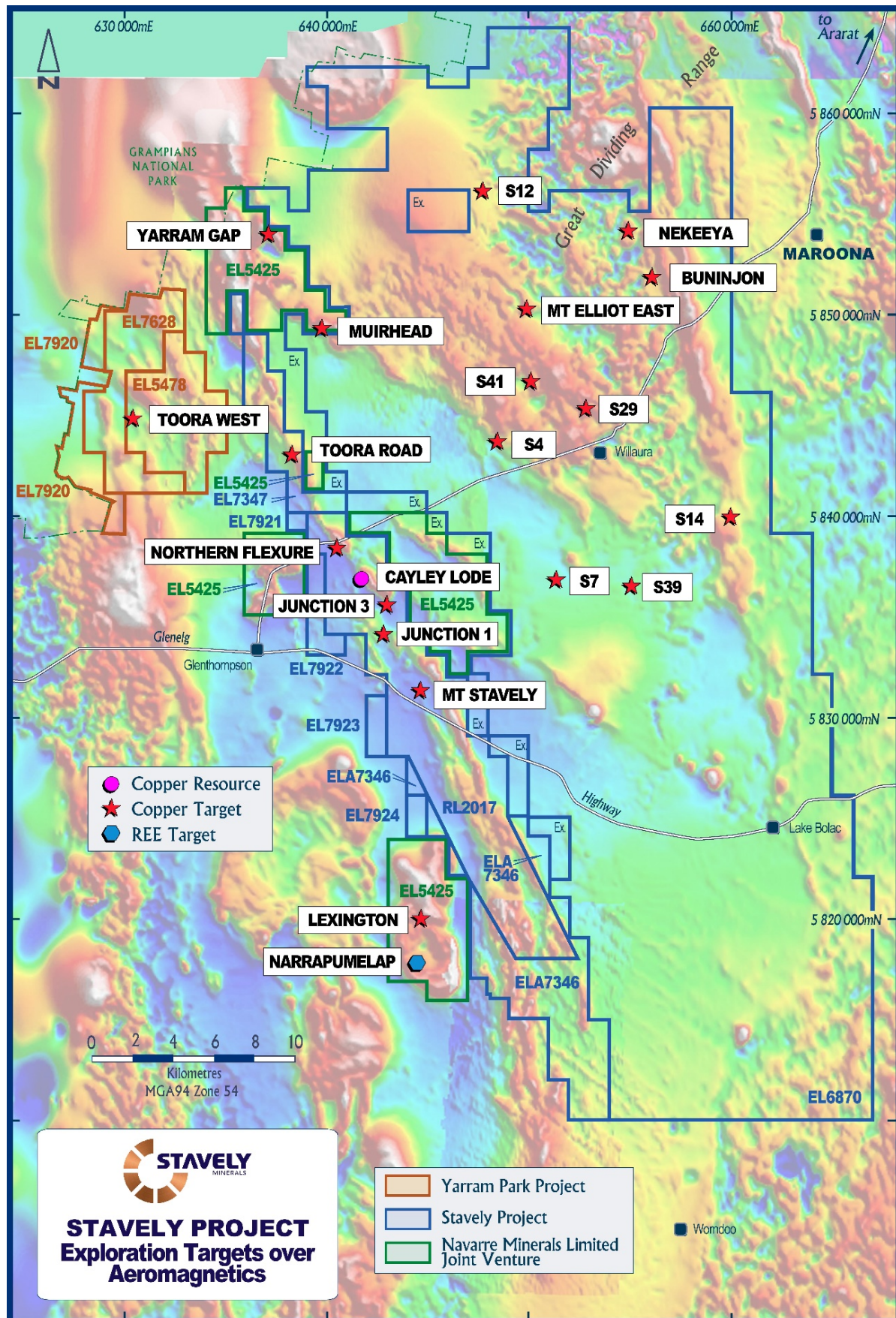


Figure 2. Stavely Project regional prospect location map on aeromagnetics.

## EXPLORATION

### Stavely Project (RL2017, EL6870, EL7347, EL7921, EL7922, EL7923 & EL7924)

#### Thursday's Gossan Prospect – Cayley Lode

During the Quarter, the deep porphyry target drilling program comprising four deep diamond holes drilled in a horizontal 'fence' across the downward projection of the plunge of the Cayley Lode commenced. The drill hole locations are shown in Figures 3 and 4.

Deep porphyry target diamond drill-hole 1 (SMD183) was drilled to a depth of 848.7m, intersected a narrow interval of carbonate-base metal and possibly precious metal mineralisation (samples yet to be submitted), similar to previous holes that have drilled under the plunge of the high-grade copper-gold mineralisation in the Cayley Lode.

An example is SMD073, which intersected 5m at 2.35% Zn, 0.40% Pb, 0.25% Cu, 1.67g/t Au and 27g/t Ag associated with rhodochrosite carbonate, reflecting a cooler style of mineralisation compared to that of the Cayley Lode (Figure 5).

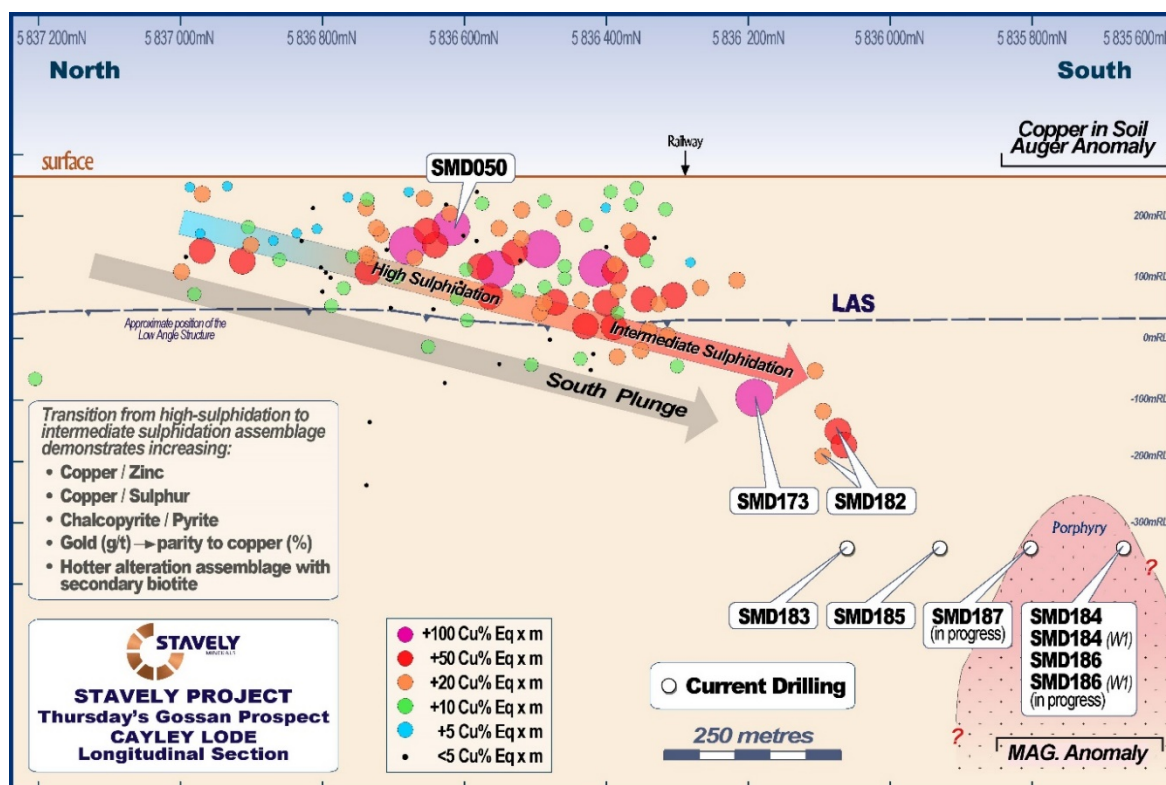


Figure 3. Schematic diagram showing the south-east plunge of the high-grade copper-gold Cayley Lode mineralisation, the imprecise location of a porphyry believed to be driving the mineralisation and the four deep drill holes (notional position) seeking to identify the source porphyry. Note the magnetic feature and copper-in-soil anomaly targeted by proposed drill-holes 2 and 4, which are yet to be completed.

Similarly, but with a broader and more significant density of veins, deep porphyry drill-hole 3 (SMD185), which was drilled to a depth of 888.7m has intersected carbonate-base metal and possibly precious metal mineralisation (assays pending) over an interval from 772m drill depth to 829m drill depth (Photo 1).



While the sphalerite abundance is expected to provide sub-economic zinc assays, it should be noted that elsewhere in the project – when these veins are observed – they can return moderate to significant precious metal values which can only be verified by assay results.



Photo 1. Quartz-carbonate-sphalerite vein in mudstone at 775.9m.

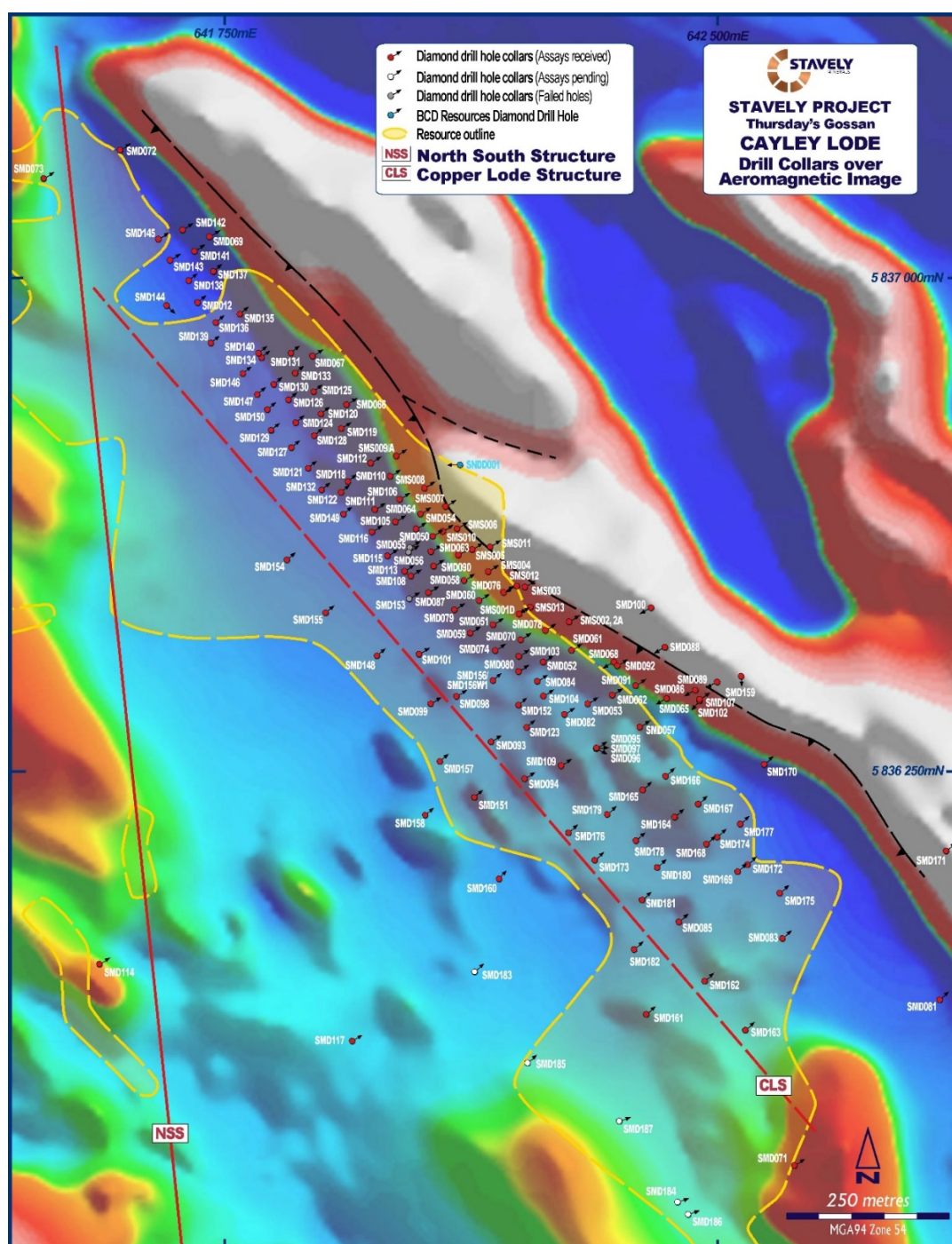


Figure 4. Cayley Lode drill collar locations with deep drill-hole collars.

Deep porphyry target diamond drill-hole 2 (SMD184) failed at 354m drill depth, and the wedge (SMD184W1) failed at 411m drill depth. The collar was shifted 25m to the south for the re-drill as SMD186. This hole failed at 531.2m and the subsequent wedge, SMD186W1 failed at 519.7m. The drilling failed as a result of very bad ground conditions due to a broad structural zone, as well as some drilling equipment issues.

An alternate drill hole has been designed to test this target from an east-to-west drill direction that would avoid the problematic structural zone. This hole will commence when SMD187 is completed.

The area targeted by deep porphyry drill-holes 2 and 4 is underlain by a discrete magnetic feature proximal to the intersection of the NW Cayley Lode structure and a NS structure and is also located below a significant copper-in-soil auger geochemical anomaly.

Deep porphyry drill hole 4 (SMD187) is currently in progress. Drilling conditions are challenging in broken ground with zones of intense clay alteration.

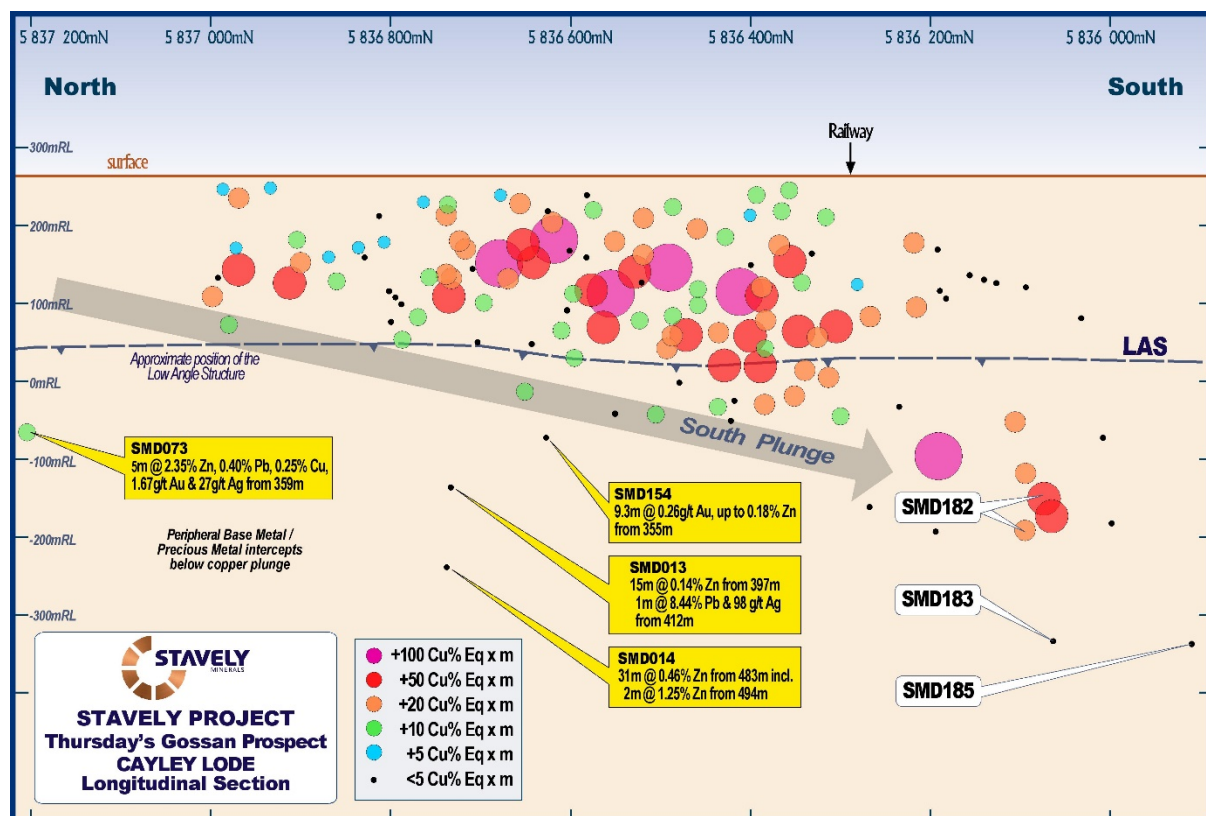


Figure 5. Cayley Lode long-section showing drill hole pierce points. Note the carbonate-base metal-precious metal intercepts in diamond drill-holes SMD013, 014, 073 and 154. These are interpreted to reflect cooler temperature mineralisation below the main SE plunging dilatant fluid conduit hosting the hotter and higher-grade copper-gold mineralisation of the Cayley Lode. This is what it appears that deep porphyry diamond drill-hole 1 (SMD183) and hole 2 (SMD185) has intersected.

## Regional Exploration

During the Quarter, a total 101 air-core holes for 6,454m were completed as part of a pivotal new phase of exploration being undertaken at the Project following the completion of an extensive review of regional and near-resource discovery opportunities last year. Air-core drilling was conducted at the Junction 3, Drysdale, Northern Flexure, Fairview East, S41 and S29 prospects. The S41 and Northern Flexure Prospects returned significant results and are discussed in detail below.

Assays for the infill soil auger sampling at Northern Flexure, Drysdale and Junction 1 have not yet been received.

### S41 Prospect

The S41 prospect was identified through interpretation of regional aeromagnetism and Stavely Minerals' proprietary airborne Falcon gravity gradiometer data. First-pass air-core drilling in 2022, which was co-funded by the Victorian Government TARGET grant, identified anomalous geochemistry and widespread sericite alteration ± pyrite.

Dr Greg Corbett, in his review of the air-core drill chips from adjacent prospects S41 and S29 (Figure 2), commented: "The data to hand could therefore represent a portion of a zoned porphyry-related hydrothermal system in which the core silica-sericite altered intrusion complex passes to marginal wall rock hosted argillic alteration." Dr Corbett's recommendation was to in-fill the existing drilling with additional air-core drill holes to test for the presence of any mineralised intrusions likely to occur in the centre of the hydrothermal system. Dr Corbett's report, dated May 2022, is available for reference on the Stavely Minerals' website ([www.stavely.com.au](http://www.stavely.com.au)) under the technical reports tab.

With the recommended follow-up air-core drilling, which was also co-funded by the Victorian Government TARGET grant, now completed, the observed alteration, sulphide mineralisation and geochemical signature has provided further evidence of a north-west oriented phyllic hydrothermal alteration system of around 2 kilometres in length, within which assays have provided strong gold, copper and silver results with associated base-metal and pathfinder geochemistry typical of a late epithermal precious metal/base metal system, including (Figures 6-10):

Air-core drill-hole STAC0115:

- **4m at 2.21g/t Au, 6.9g/t Ag, 0.10% Pb, and 0.18% Zn** from 96m drill depth, including:
  - **2m at 3.92g/t Au, 9.3g/t Ag, 0.18% Pb and 0.31% Zn** from 98m; and
- **2m at 0.47g/t Au and 3.1g/t Ag** from 140m to end-of-hole

Air-core drill-hole STAC0121:

- **2m at 0.11g/t Au, 0.12% Cu and 10.1g/t Ag** from 80m drill depth

Air-core drill-hole STAC0125:

- **10m at 0.42% Zn, 0.16% Pb and 2.4g/t Ag** from 58m drill depth; and
- **6m at 0.20g/t Au, 0.18% Cu and 2.2g/t Ag** from 100m

The S41 prospect also shows strong pathfinder geochemistry with anomalous As and Sb to 0.11% and 119ppm respectively. This precious metal/base metal/pathfinder element signature is consistent with a high-level epithermal setting above a deeper porphyry (Figure 11). The observed chalcedonic quartz and fine black sulphides ± carbonate may be indicative of a telescoped system with the later epithermal overprinting an earlier porphyry-related phyllic (silica-sericite-pyrite) alteration event.



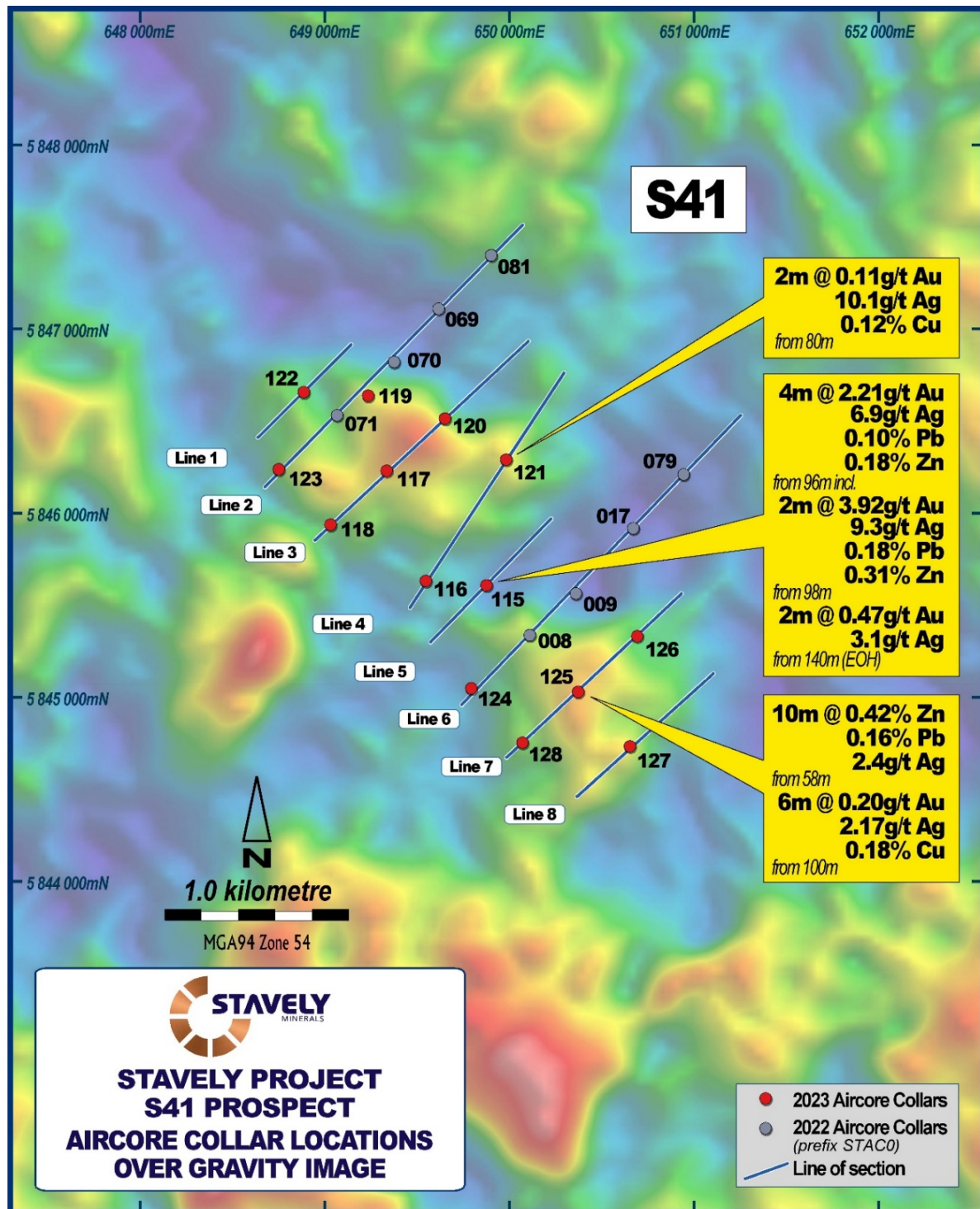


Figure 6. S41 prospect air-core drill collar locations and section lines on Falcon© gravity gradiometer data.

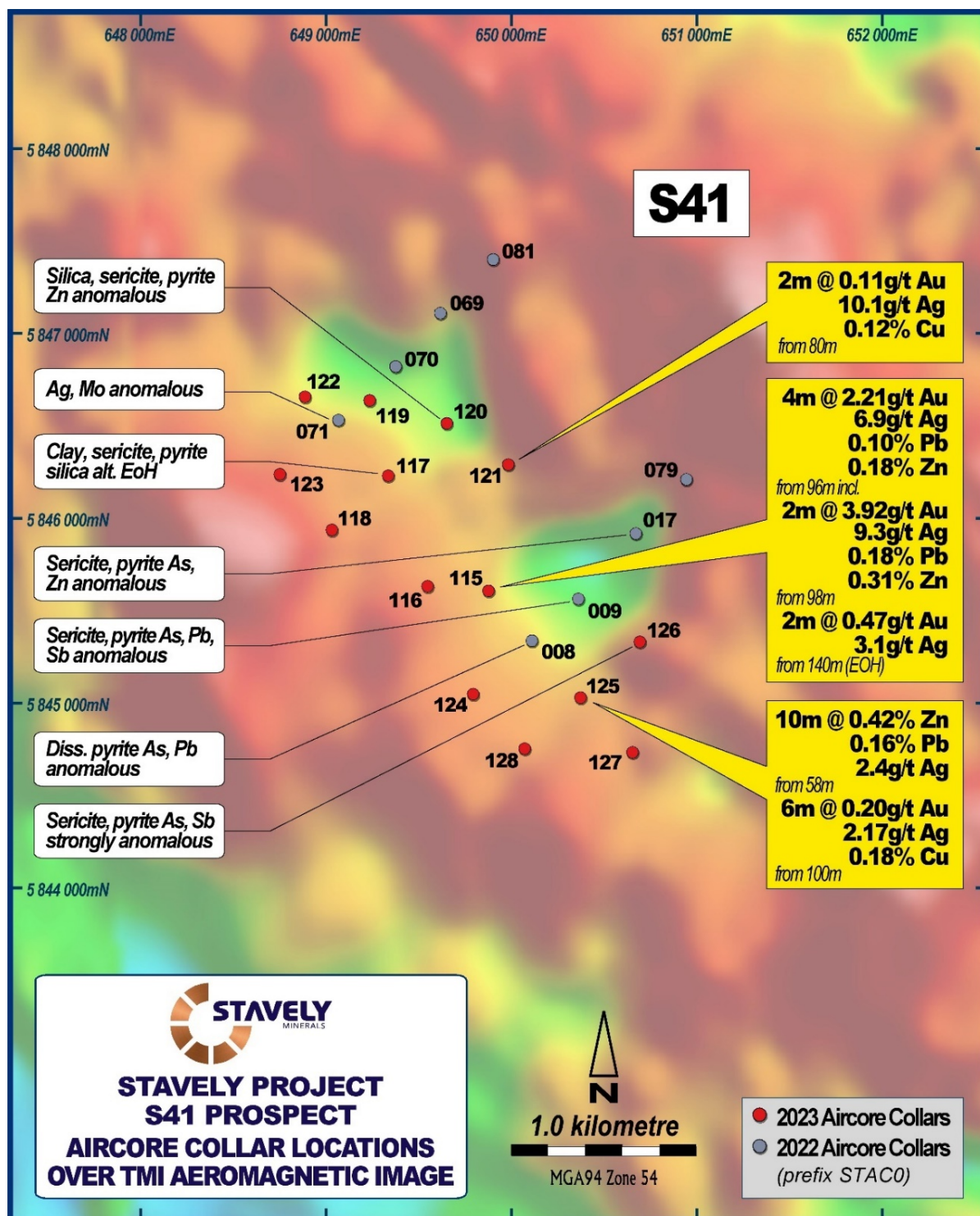


Figure 7. S41 prospect air-core drill collar locations and annotated alteration/geochemical anomalism on regional aeromagnetic data.



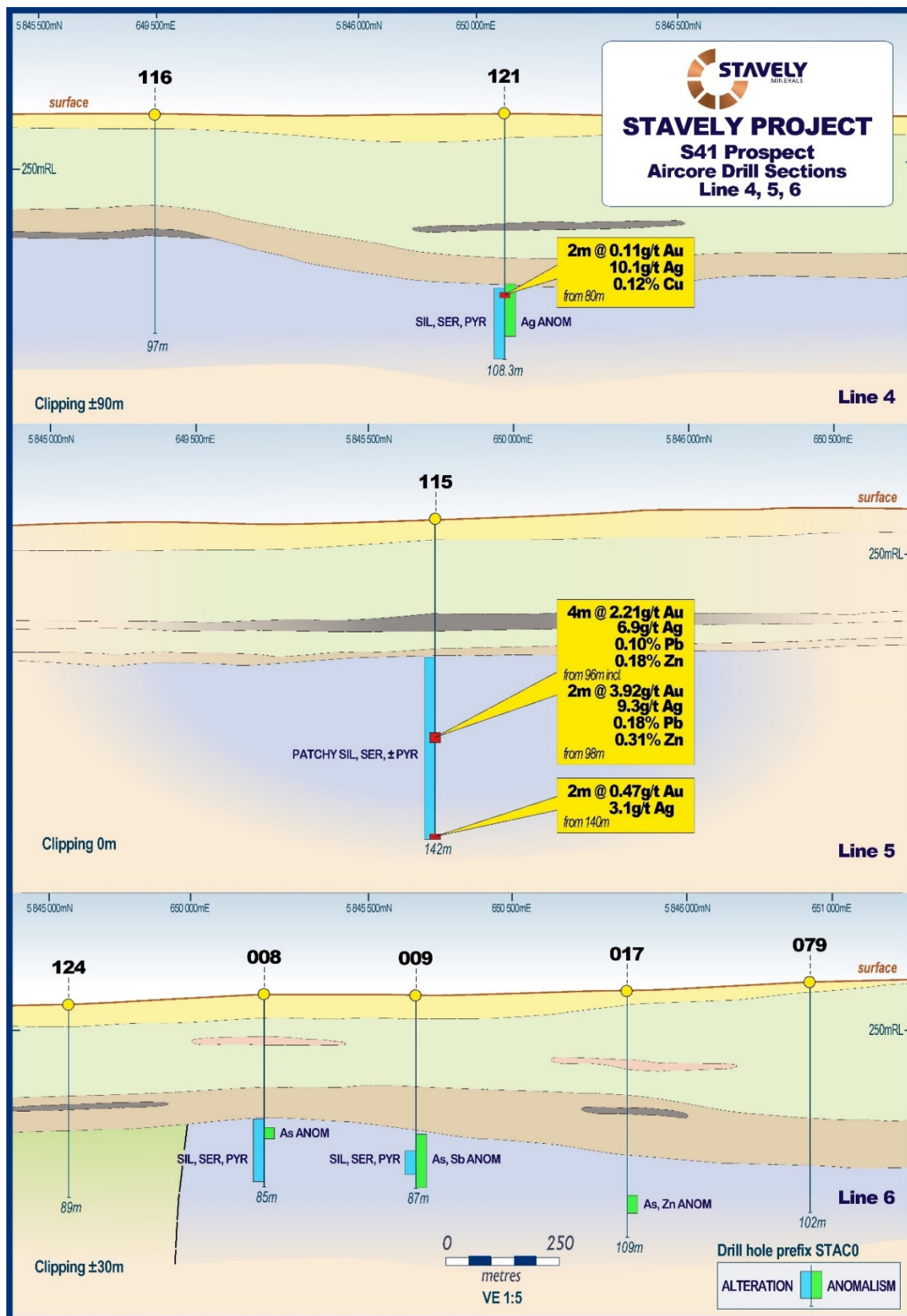


Figure 8. S41 prospect air-core drill section lines 4, 5 and 6.



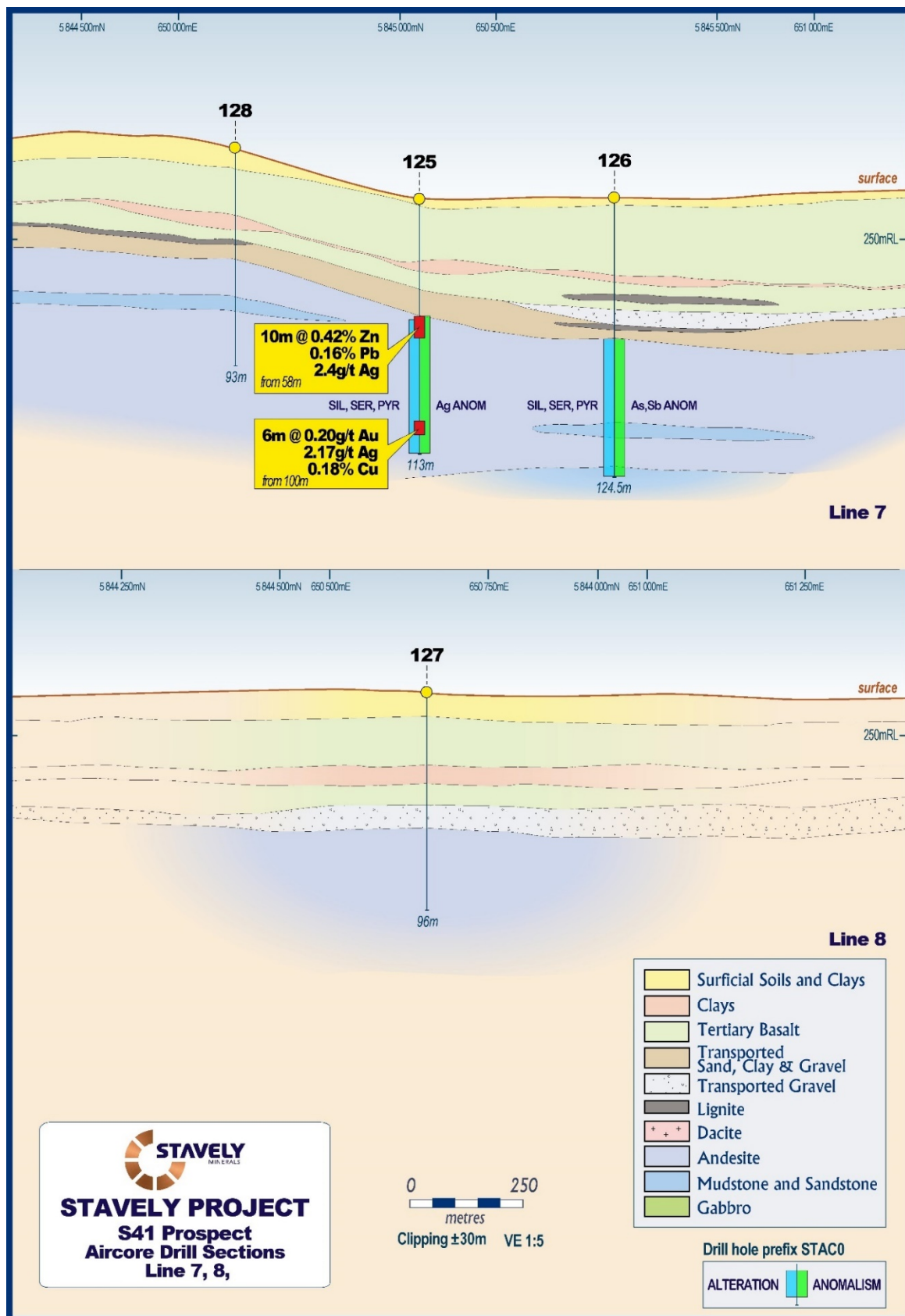


Figure 9. S41 prospect air-core drill section lines 7 and 8.

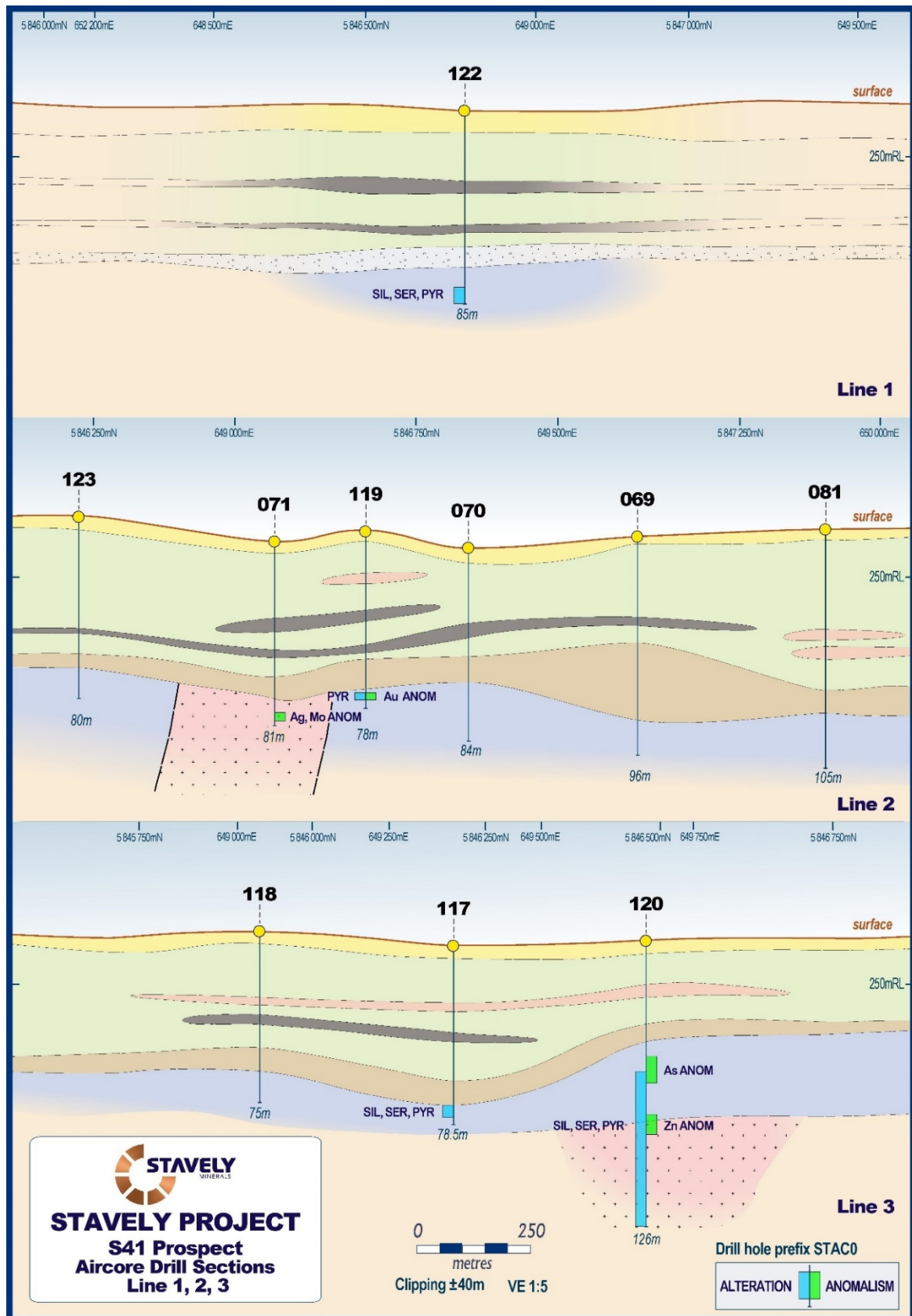
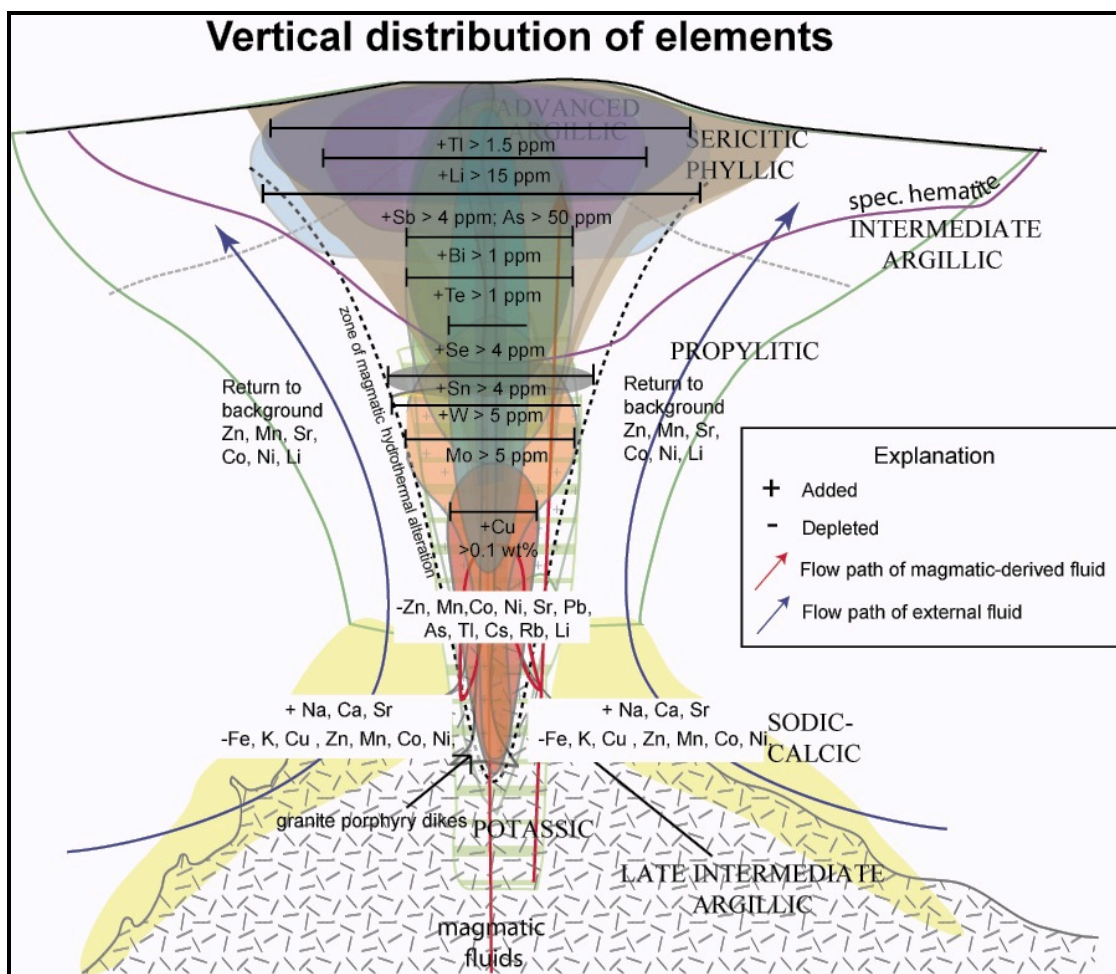


Figure 10. S41 prospect air-core drill section lines 1, 2 and 3.



**Figure 11. A summary diagram of the Mineral Deposit Research Unit – University of British Columbia generalised model of geochemical and alteration zonation around a porphyry copper-gold deposit (after Cohen, 2011 and Halley et al., 2015). The column of alteration and geochemical zonation depicted may be in the order of a 5km vertical extent.**

### **Northern Flexure Prospect**

The Northern Flexure prospect is located approximately 2km north-west of the Cayley Lode. An interpreted fault slice of the Cayley Lode footwall serpentinised ultramafic unit is similarly in fault contact with the hangingwall volcano-sedimentary sequence at the Northern Flexure prospect. Recent soil auger sampling identified patchy arsenic, silver and molybdenum anomalism.

First-pass reconnaissance air-core drilling has been conducted on two lines to test the ultramafic contact (Figure 12 and 13). Drill-hole STAC0063 has returned very strong silver mineralisation from shallow depth:

- **20m at 33.2g/t Ag from 12m drill depth, including**
  - **2m at 169g/t Ag from 12m**

Silver mineralisation is associated with iron-stained quartz vein fragments proximal to the ultramafic/serpentine contact.

Follow-up drilling is subject to a work plan application. The Northern Flexure prospect is located on a farm owned by Stavely Minerals.



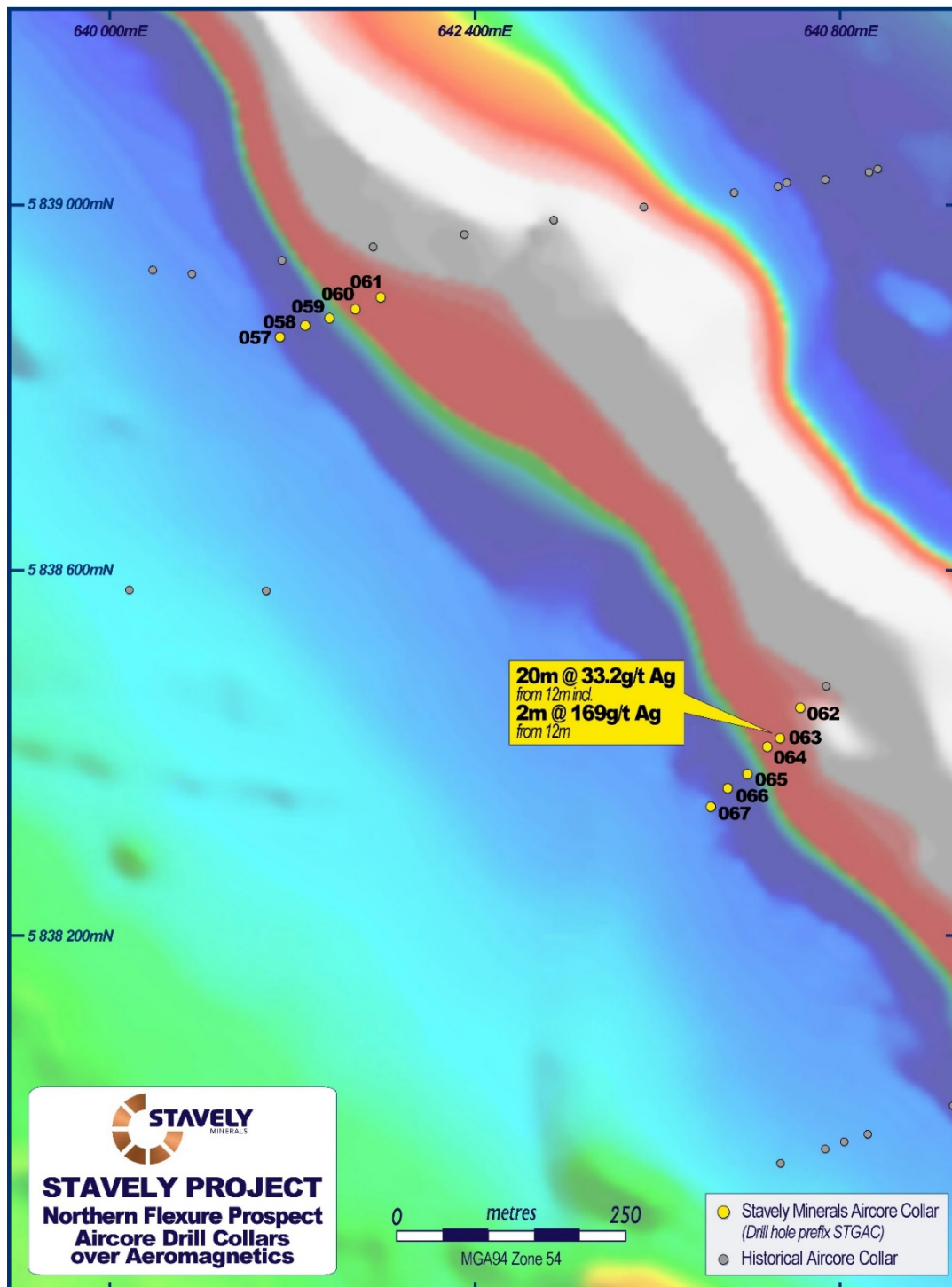


Figure 12. Northern Flexure prospect air-core drill collar locations.

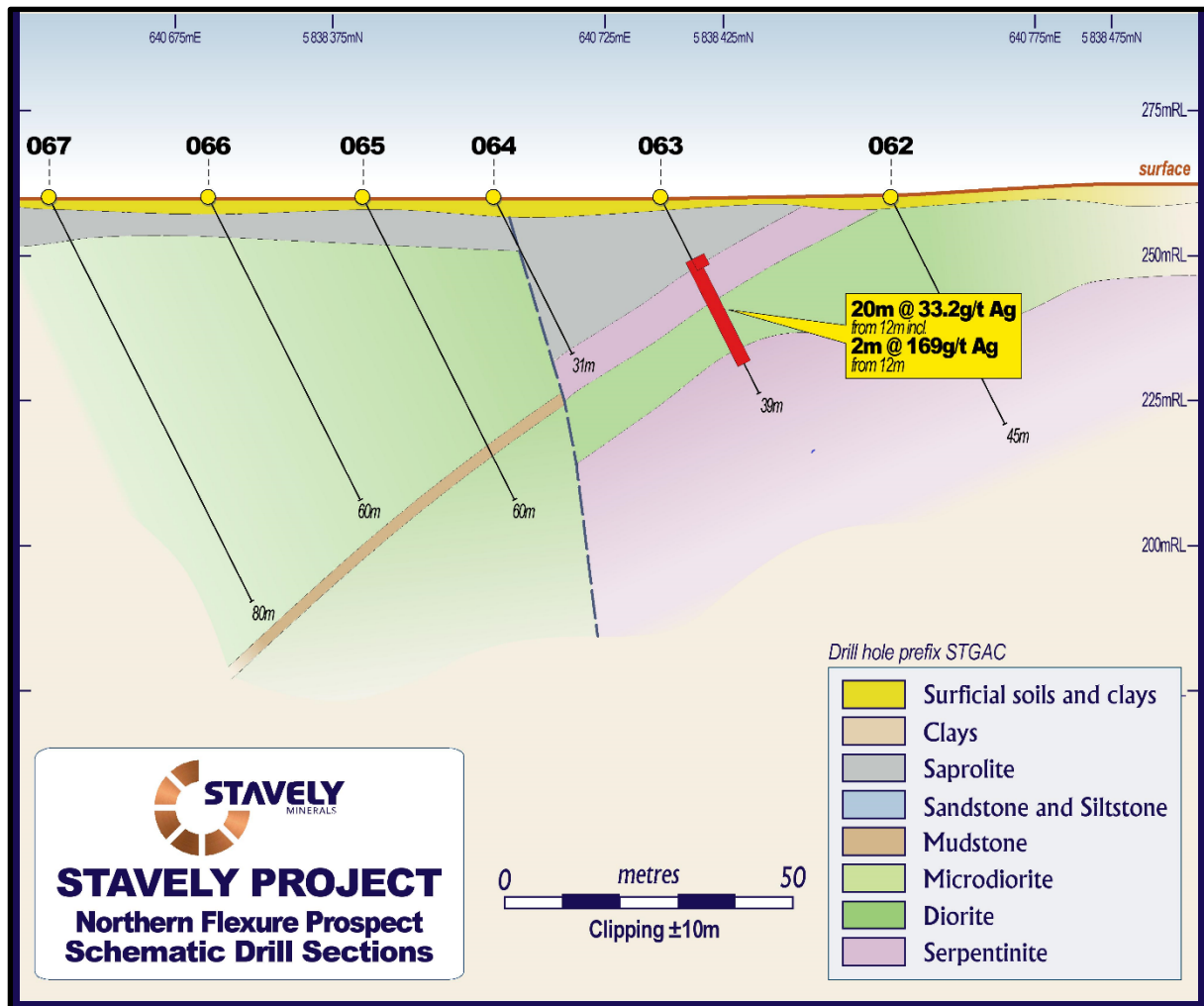


Figure 13. Northern Flexure prospect air-core drill section.

## **Black Range Joint Venture Project (EL5425)**

### **Narrapumelap REE Prospect**

During the Quarter exploration activities conducted on EL5425 included aircore drilling (Photo 2) and soil auger sampling at the Narrapumelap REE Prospect (Figure 2).

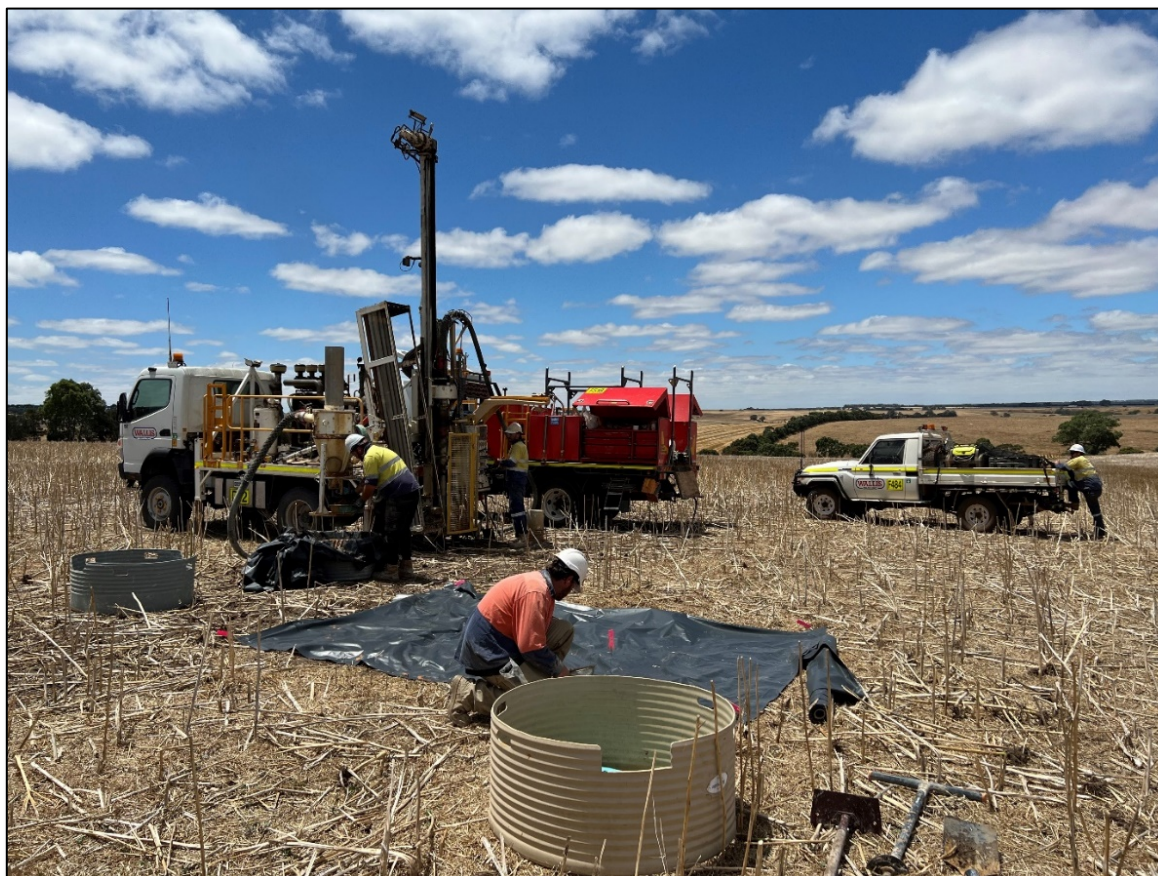
During the 2022 regional exploration programme, soil auger sampling identified elevated Ce and La rare earth anomalism in the routine geochemical element suite used for this sampling. Re-assay for the full rare earth element (REE) suite identified a very anomalous sample that returned 0.24% total rare earth oxides plus yttrium (TREO+Y) (Figure 14).

A first-pass air-core line of five drill-holes (STAC0098 to STAC0102) was completed for a total of 183.8m as a 'first look' at this anomaly (Figure 15).

The best result from this drilling was exactly the same with 2m at 0.24% TREO+Y from 8m depth in drill-hole STAC0099 (Figure 16). All of the five air-core drill holes at the Narrapumelap REE prospect were drilled into weathered granodiorite. Consequently, the Narrapumelap prospect is likely an ionic-clay style of rare earths related to weathering of the granodiorite.

Subsequent infill soil auger sampling was conducted at the Narrapumelap REE prospect with a total of 204 samples collected at 100m by 100m spacing in the vicinity of the two peak Ce results from the previous survey and 200m by 200m in the broader area.

Subsequent in-fill soil sampling indicates that the location of the line of air-core holes was not in the ideal location. Follow-up assay of in-fill soil auger samples for a full REE suite is in-progress.



**Photo 2. Aircore Rig at Narrapumelap.**



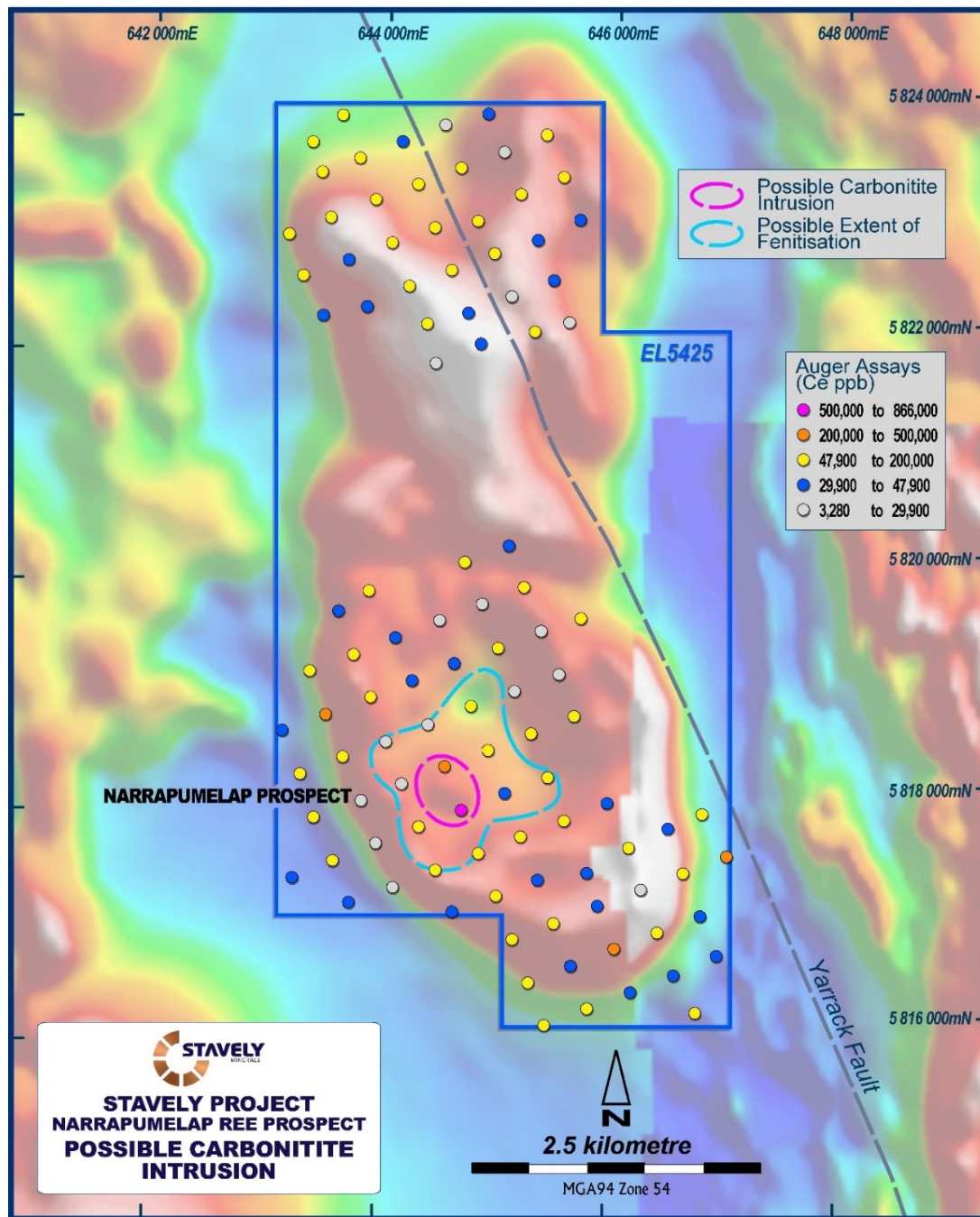


Figure 14. Soil auger sample locations overlaid on magnetics for the Bucheran Diorite at the Narrapumelap Prospect.

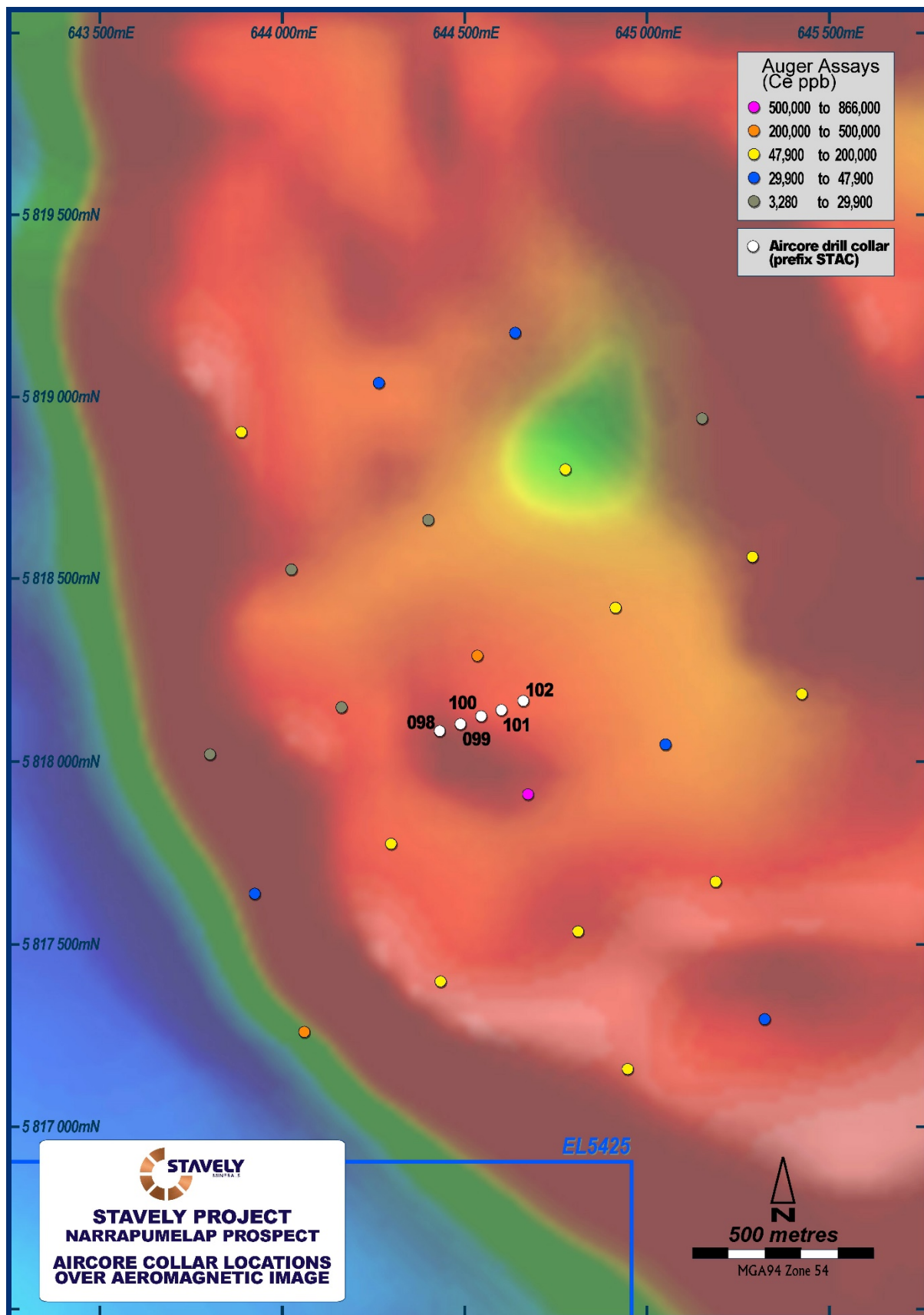


Figure 15. Aircore Collar Locations over Aeromagnetic Image.

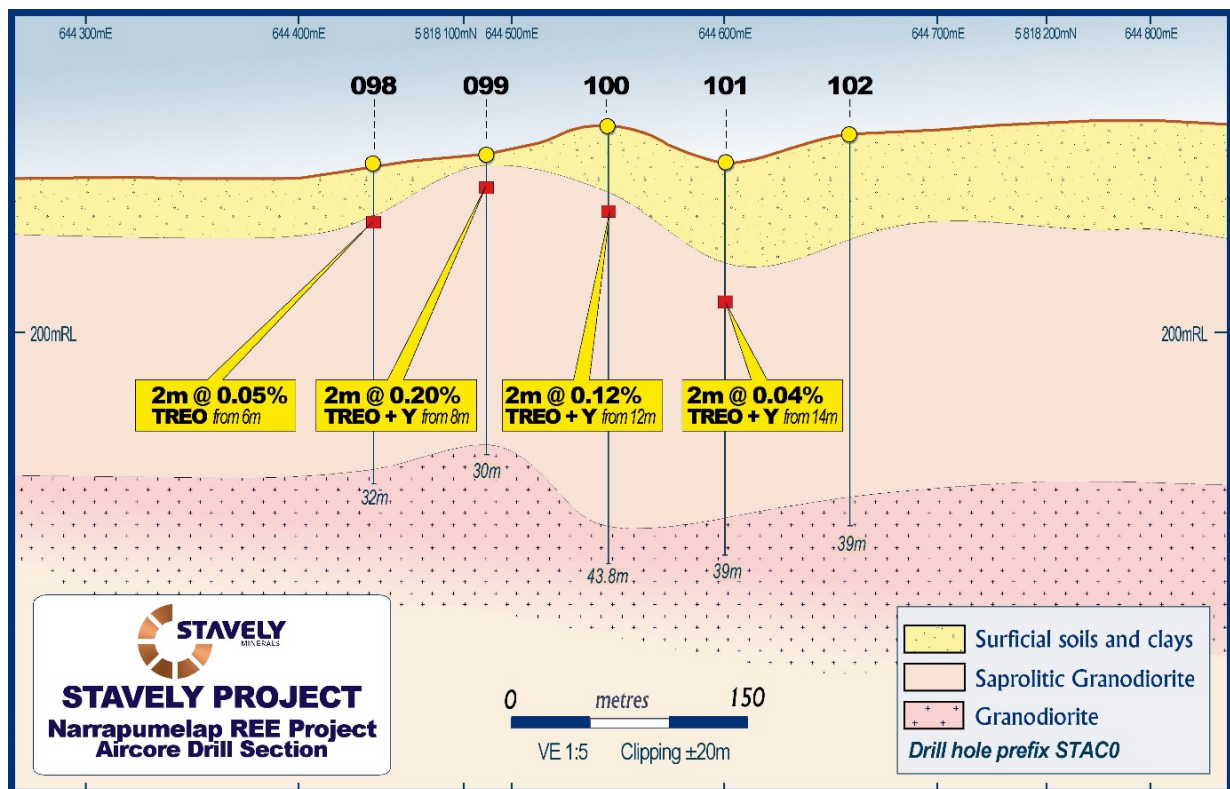


Figure 16. Narrapumelap REE Project – Aircore Drill Section.

## Yarram Park Project (EL5478, EL7628 & EL7920)

### Toora West

No on-ground exploration activities were conducted on the Yarram Park Project during the Quarter.

## Ararat Project (RL2020)

No on-ground exploration activities were conducted on the Ararat Project during the Quarter.



## Planned Exploration

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### Stavely Project (RL2017, EL6870, EL7347, EL7921, EL7922, EL7923 & EL7924)

The diamond drilling planned to test the depth extents of the Cayley Lode mineralisation and for the possible causative porphyry will continue during the next quarter.

Diamond drill will be conducted at the S41 target during the next quarter. A drill hole has been designed to test ~300m below the gold-silver intercept in STAC0115.

## CORPORATE

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Stavely Minerals had a total of \$3.9M cash on hand at the end of the March 2023 Quarter.

### Additional ASX Information

- Exploration and Evaluation Expenditure during the Quarter was \$1,443,000 (excluding staff costs). Full details of exploration activity during the Quarter are included in this Quarterly Activities Report.
- There were no substantive mining production and development activities during the Quarter.
- Payments to related parties of the Company and their associates during the Quarter was \$218,000. The Company advises that this relates to executive directors' salaries, non-executive directors' fees and superannuation.

## ANNOUNCEMENTS

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Investors are directed to the following announcements (available at [www.stavely.com.au](http://www.stavely.com.au)) made by Stavely Minerals during and subsequent to the March 2023 Quarter for full details of the information summarised in the Quarterly Report.

- 19/01/2023 Pivotal 2023 Exploration Campaign Commences with Air-Core Drilling of Regional Targets Underway and Diamond Drilling of Deep Porphyry Target Imminent
- 14/03/2023 Thursday's Gossan Porphyry Target Drilling Update
- 12/04/2023 Thursday's Gossan Porphyry Target Drilling Update
- 19/04/2023 New Gold and Silver Hits from Air-core Drilling Highlight Emerging Regional Discovery Opportunities

During the Quarter, Stavely Minerals participated in the following conferences and investor meetings:

- |                    |                                     |
|--------------------|-------------------------------------|
| 06/02 – 07/02/2023 | 121 Mining Investment, Cape Town    |
| 14/02 - 16/02/2023 | RIU Explorers Conference, Fremantle |

## Tenement Portfolio - Victoria

The tenements held by Stavely Minerals as at 31 March 2023 are as follows:

| Area Name       | Tenement | Grant Date/<br>(Application Date) | Size (Km <sup>2</sup> ) |
|-----------------|----------|-----------------------------------|-------------------------|
| Black Range JV* | EL 5425  | 18 December 2012                  | 100                     |
| Yarram Park     | EL 5478  | 26 July 2013                      | 26                      |
| Yarram Park     | EL 7628  | 10 December 2021                  | 28                      |
| Yarram Park     | EL7920   | 15 September 2021                 | 27                      |
| Ararat          | RL 2020  | 8 May 2020                        | 28                      |
| Stavely         | RL 2017  | 8 May 2020                        | 81                      |
| Stavely         | EL 6870  | 30 August 2021                    | 865                     |
| Stavely         | EL 7346  | (10 June 2020)                    | 41                      |
| Stavely         | EL 7347  | 17 June 2022                      | 17                      |
| Stavely         | EL7921   | 15 September 2021                 | 1                       |
| Stavely         | EL7922   | 29 September 2021                 | 6                       |
| Stavely         | EL7923   | 29 September 2021                 | 3                       |
| Stavely         | EL7924   | 29 September 2021                 | 2                       |

\* 80% held by Stavely Minerals subsidiary, Energy Metals Australia Pty Ltd, 20% by Black Range Metals Pty Ltd, a wholly owned subsidiary of Navarre Minerals Limited.

In September 2022 a submission was made to Earth Resources Regulation (ERR) for the renewal of EL5425. EL5425 was originally granted on the 18th December 2012, and expired on the 17th December 2022. Stavely Minerals Limited applied for a five- year renewal of EL5425 to test a new geological concept that had been identified in mid-2022. On the 31 January 2023 Stavely Minerals received confirmation the EL5425 had been renewed for 5 years.



**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 Member of the Australian Institute of Geoscientists. 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 an 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.*

**Previously Reported Information:** *The information in this report that references previously reported exploration results and mineral resources is extracted from the Company's ASX market announcements released on the date noted in the body of the text where that reference appears. The previous market announcements are available to view on the Company's website or on the ASX website (www.asx.com.au). The Company confirms that it is not aware of any new information or data that materially affects the information included in the original market announcements. The Company confirms that the form and context in which the Competent Person's findings are presented have not been materially modified from the original market announcements.*

Authorised for lodgement by Chris Cairns, Executive Chair and Managing Director.  
24 April 2023