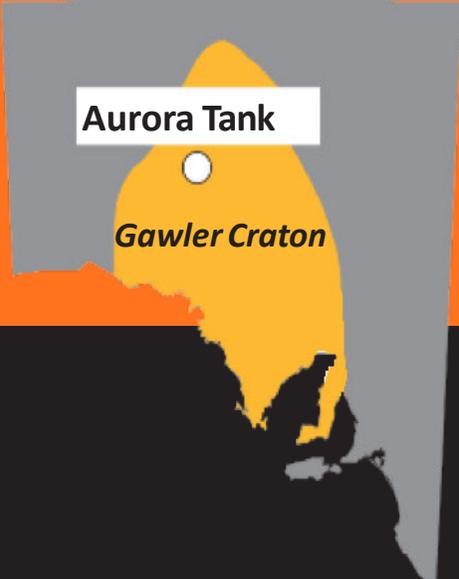




MARMOTA



Aurora Tank

Gawler Craton

Aurora Tank Gold

Kevin Wills Director of Exploration

SAREIC Conference April 2019

ASX: MEU

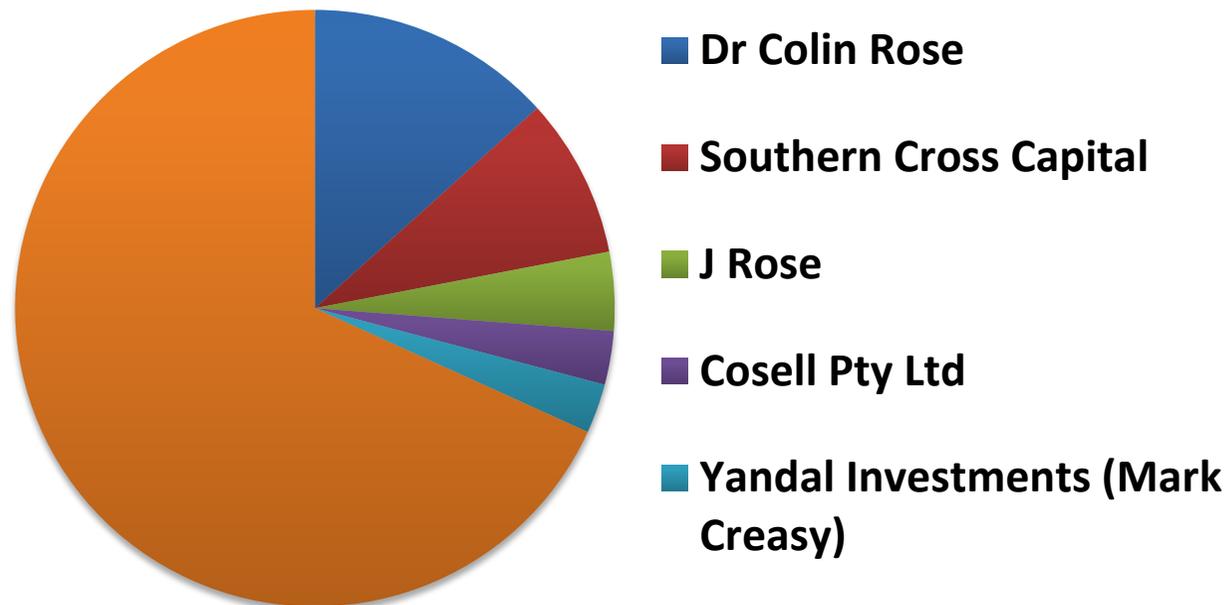
- Corporate Snapshot
- Tenements
- Aurora Tank gold discovery
- Geology
- Gold Mineralisation
- Metallurgy
- Block Model
- Biogeochemical Exploration
- What's Next



Capital Structure

Shares on issue	653 m
Options	0
Unlisted options	31 m
Market Cap (at 1.7 cents per share)	~ \$11 m
Zero Debt	

Largest Shareholders



Board & Management

Executive Chairman	Dr Colin Rose
Executive Director (exploration)	Dr Kevin Wills
Technical Director (non-exec)	Peter Thompson

Top Shareholders

Top 20	~ 49%
Top 50	~ 64%
Top 100	~ 78%

Lower costs

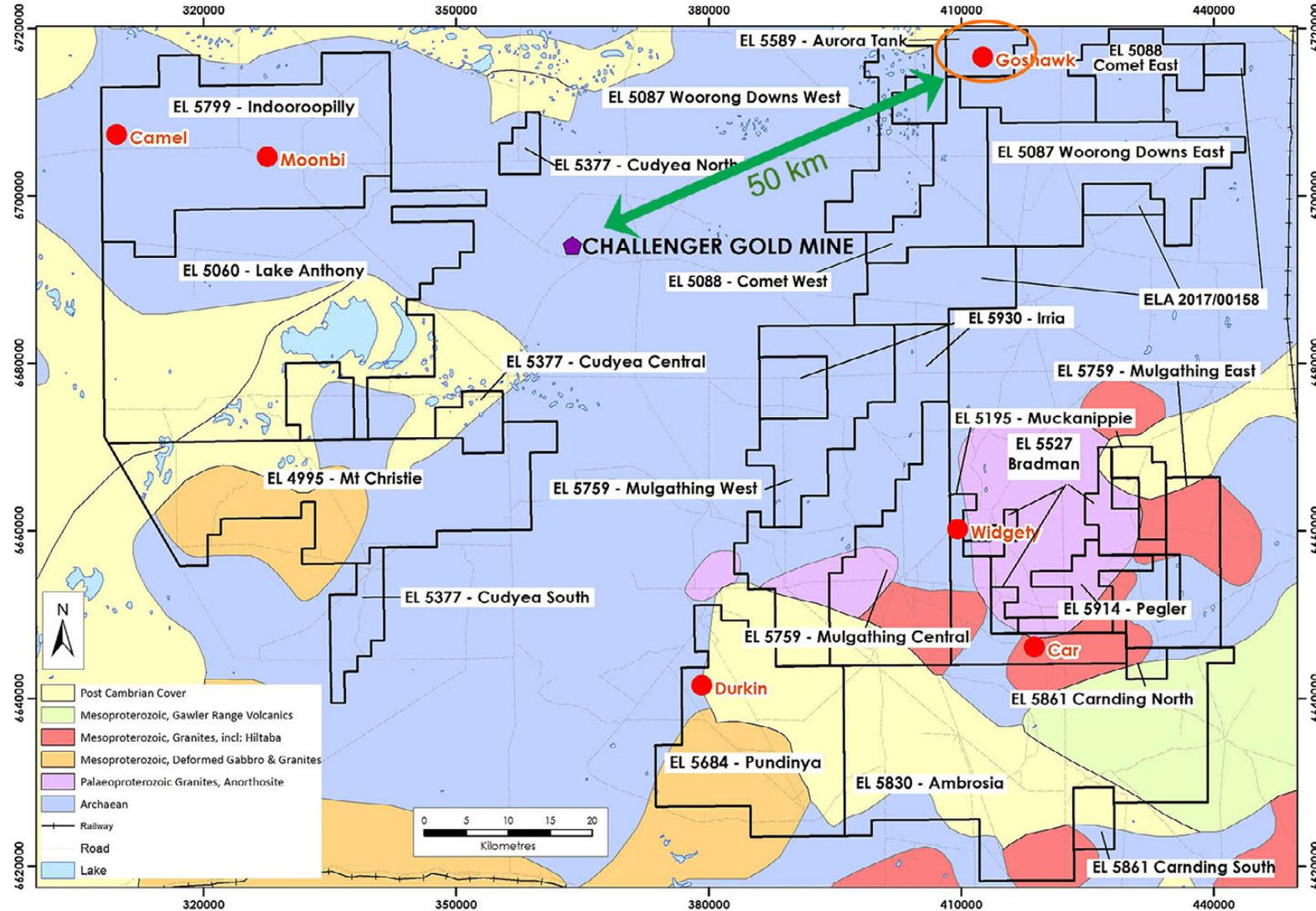
Less dilution

MORE exploration

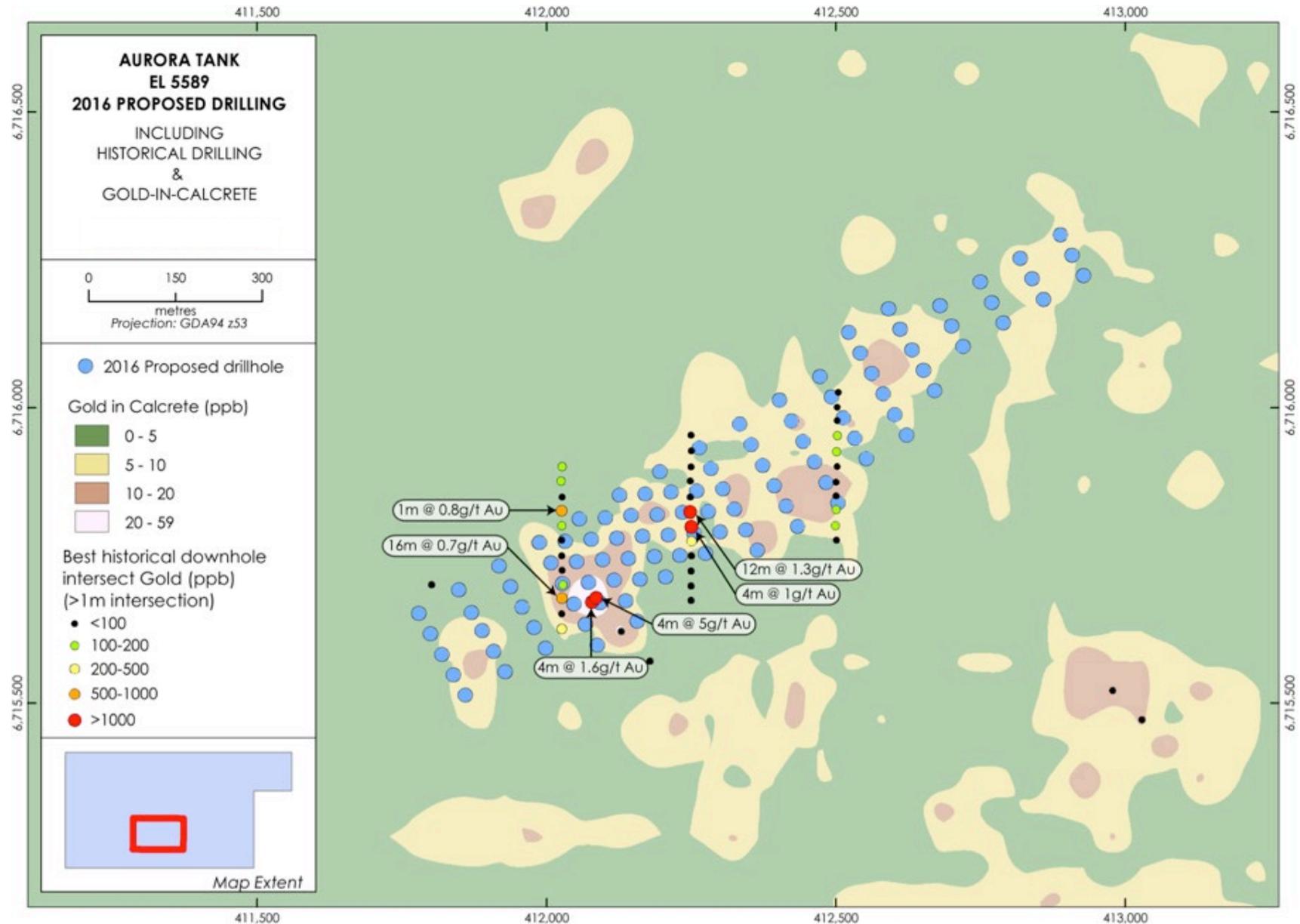
- 16 ELs
- Total Area: 6109 km²
- Centred on Challenger

Prospective for gold deposits in:

- Archaean Mulgathing Complex targets, and
- Mesoproterozoic Hiltaba-Gawler Range Volcanics targets



- Recon calcrete sampling (late 1990s) produced gold-in-calcrete anomalies
- Previous drilling by Minotaur (1999) & Apollo (2014)
- Marmota's 1st pass recon air core program in September 2016 (blue dots)



Evolution of drilling

2016

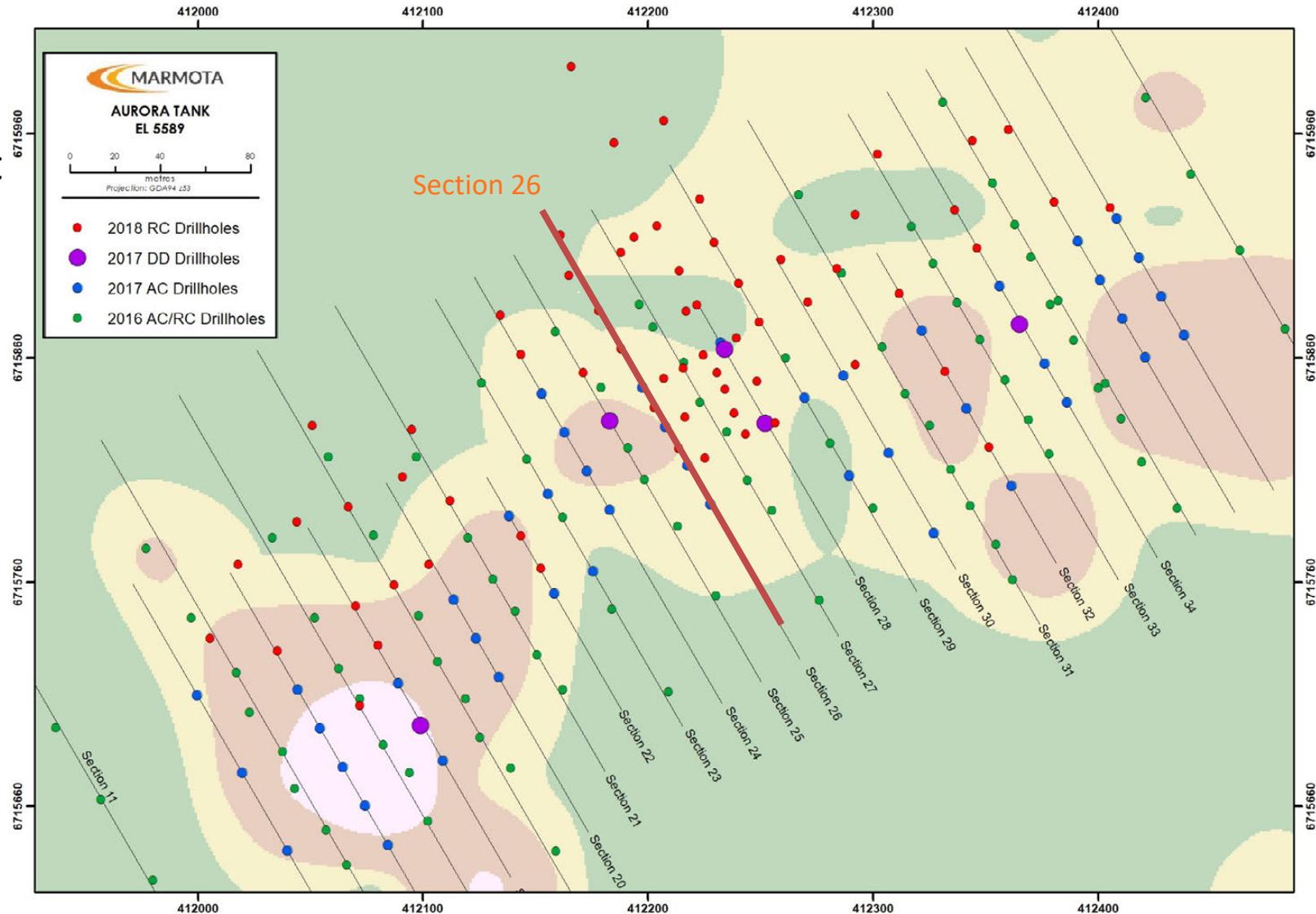
Air core Recon drilling at 80m x 40m and 40m x 20m spacing

2017

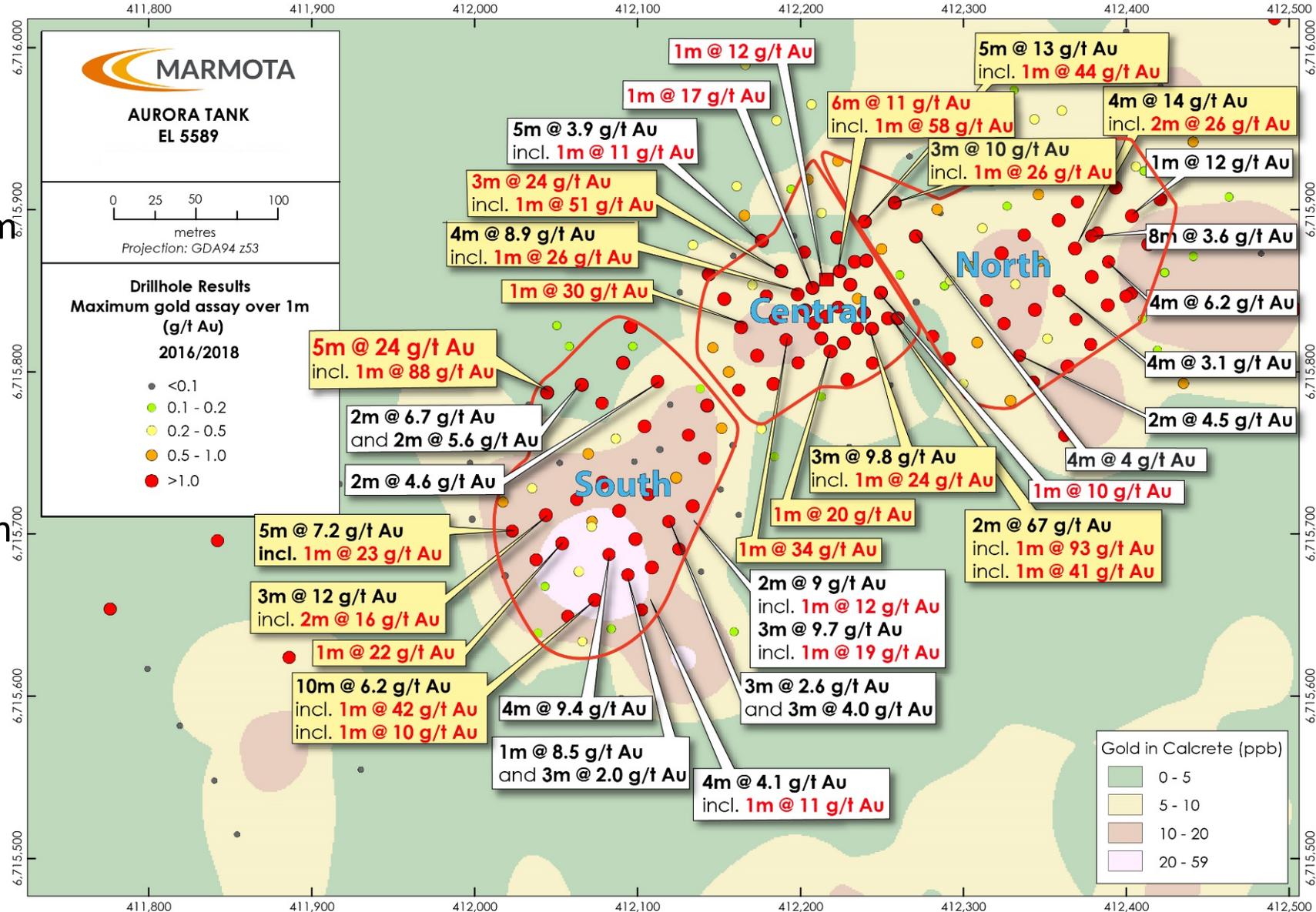
Air core (20m x 20m) and 6 Diamond drillholes for geology and metallurgy

2018

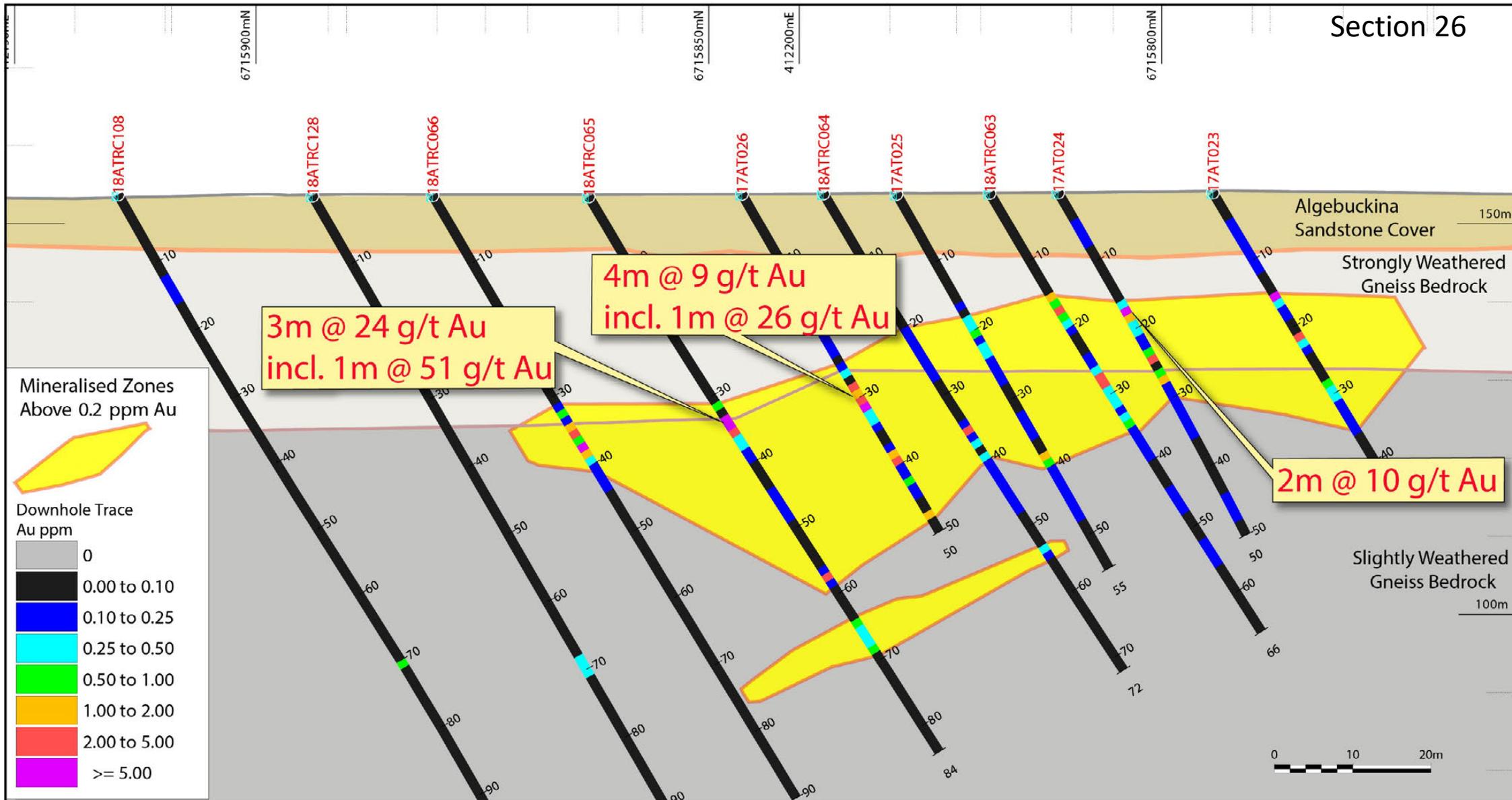
Extension and infill RC drilling to 10m x 10m in some locations



- Over 500m length
- Close to surface:** high grade intercepts between 10m and 50m from surface
- Currently 3 discrete mineralised zones: South, Central, North
- Multiple sections open
- Known mineralisation generally underlies calcrete anomaly, but not exactly



Section 26



- Host rocks: Archaean Mulgathing Complex Quartz-feldspar-biotite gneiss
- Upper Amphibolite (high) metamorphic grade
- Mineralisation associated with quartz veining, pegmatites and sometimes tourmaline
- Hard to visually spot grade boundaries
- High grades up to **100 g/t Au over 1m**



Weathered gneiss (ATDD003)



Fresh gneiss with pegmatitic veining (ATDD004)

Hole 17ATDD003



**Tourmaline-rich quartz-feldspar rock
from vein margin**

Hole 17ATDD001



**Dense tourmaline crystals
on the margin of a quartz**

Hole 17ATDD001



**Pyrite-rich fracture in quartz-
tourmaline vein**

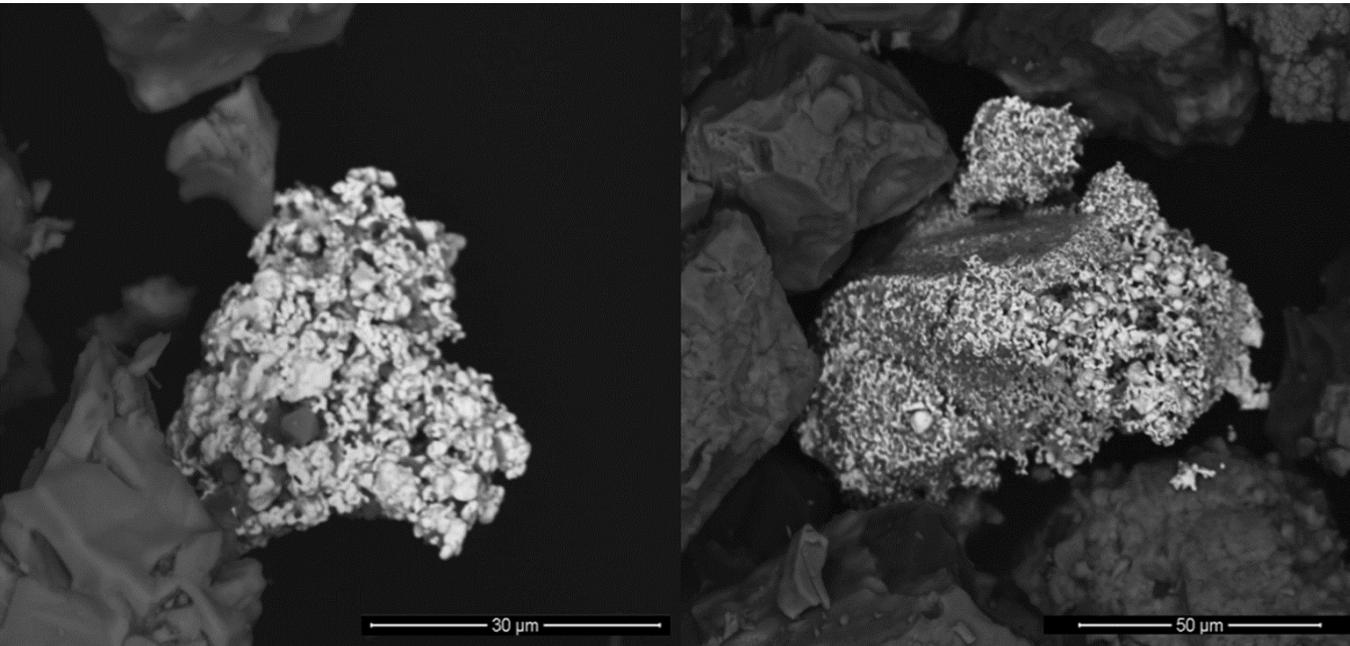
Diamond Hole
17ATDD002

46m Downhole



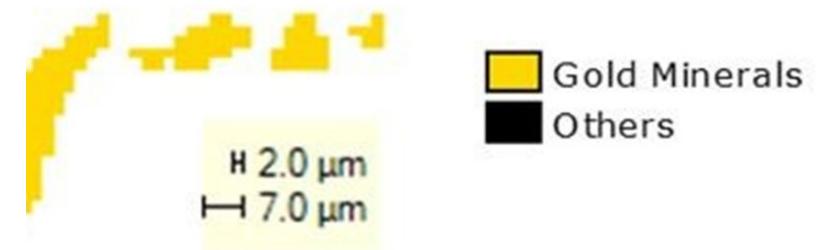
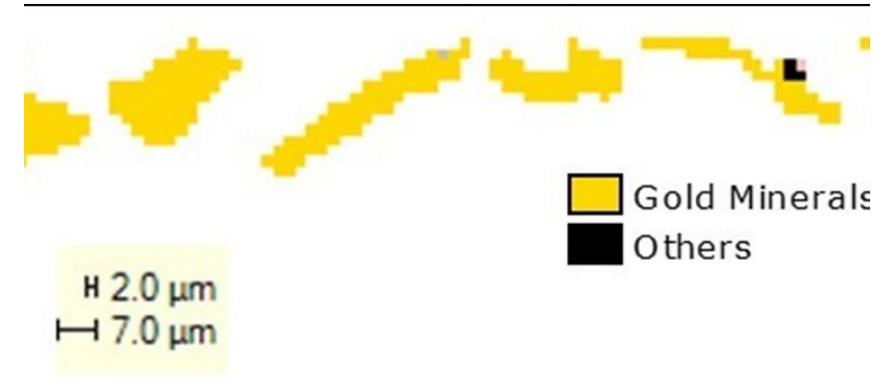
Micro “nuggety” gold, partly in clays, adjacent to minor subhedral crystals of As-Sb sulphide, collectively incorporated in massive vein quartz (black in reflected light)

20µm



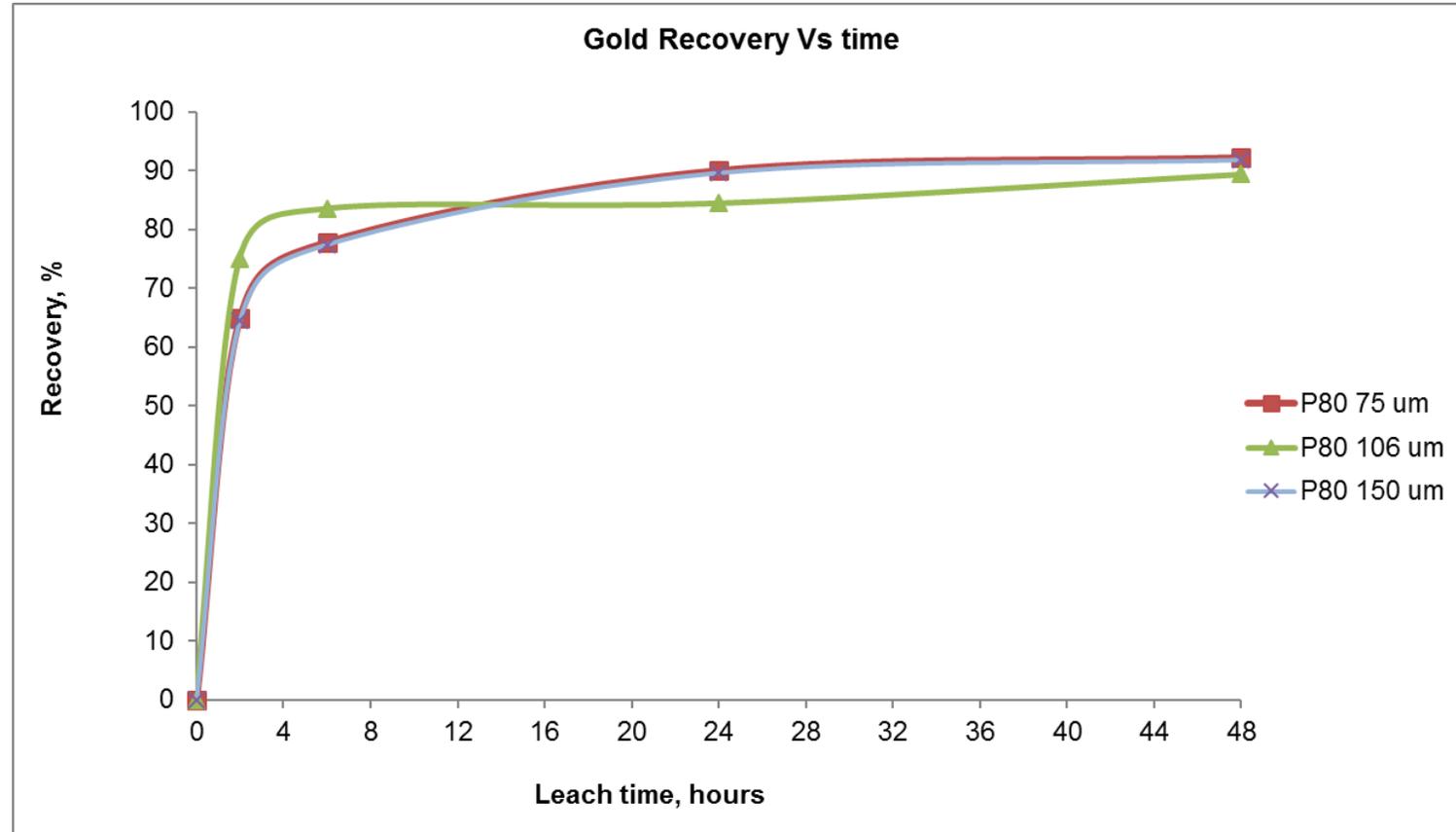
Scanning Electron Micrograph (SEM) images of:

- Gold particles show 'spongy' porous gold
- Gold particles fine grained in 5-50 micron range
- Porous Gold leads to fast leach kinetics



Qemscan image showing size and shape of gold grains

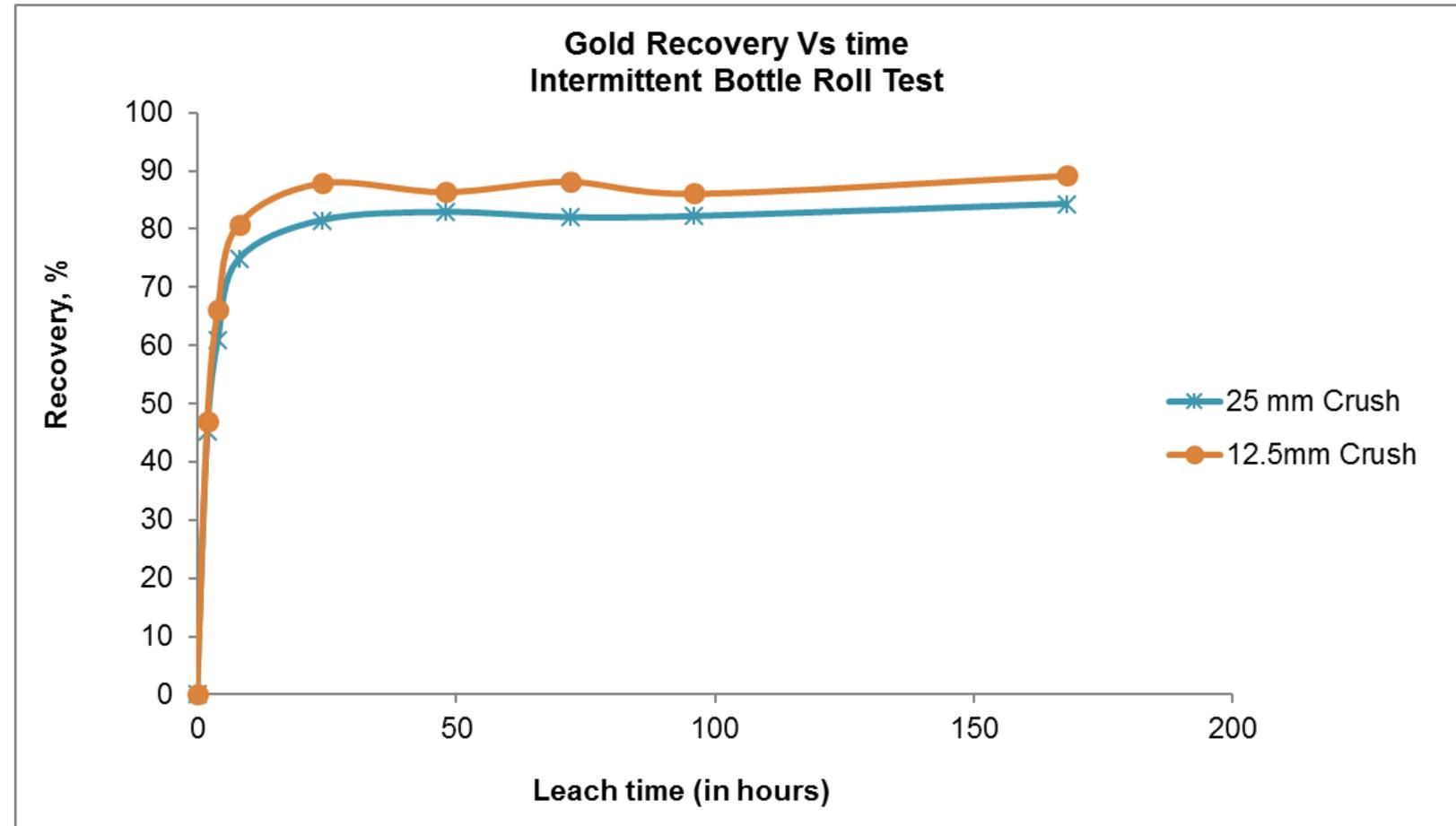
- Overall gravity and leaching recoveries from **93% to 96%**
- Variable grind size tests gave 89 to 92% recoveries
- **Very fast leach kinetics**
- Recovery predominately complete in 6 hours



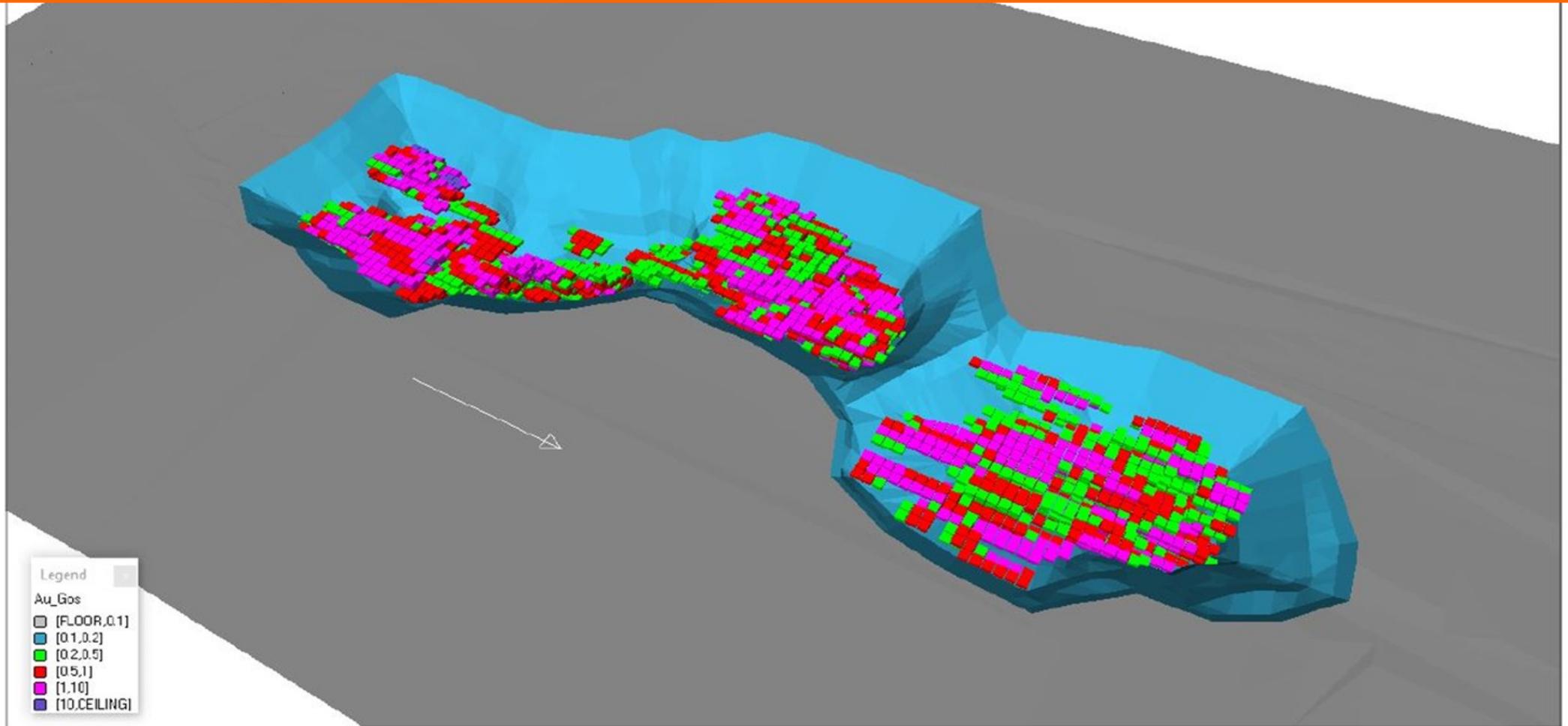
Gold recoveries versus time
(at 3 different grind sizes)

Intermittent bottle rolls on 12.5 and 25mm **coarse crushed** samples gave 92% and 89% recoveries respectively.

Indicates that **low-capex heap leaching** may be viable treatment option.



Gold recoveries vs time from non-aggressive leaching
(intermittent bottle roll tests)

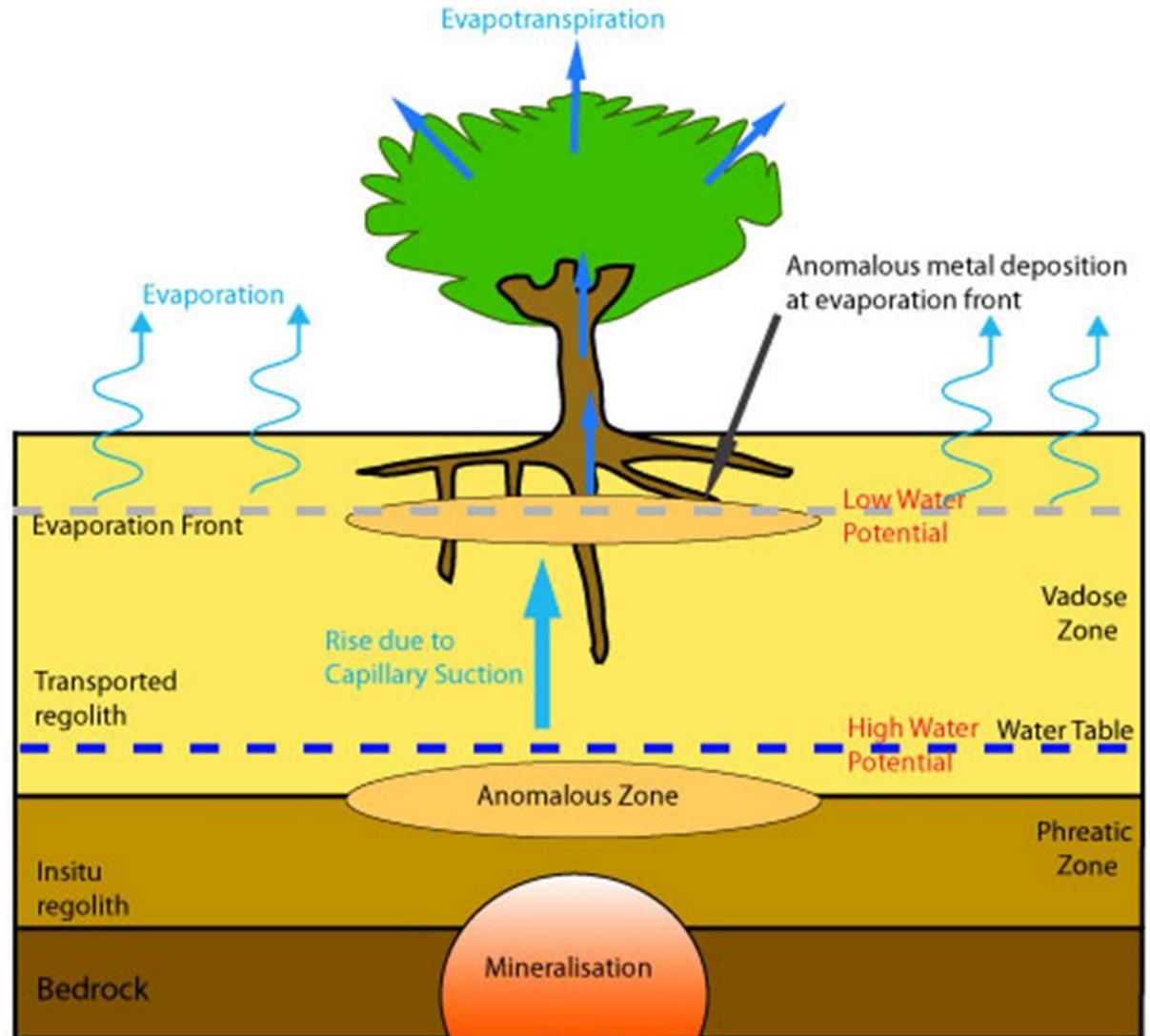


- 3D Block model perspective view showing geometry of mineralisation
- High grade (Pink), medium grade (Red) and low grade (green) blocks shown
- Good mineralisation continuity within domains
- Open in Multiple directions

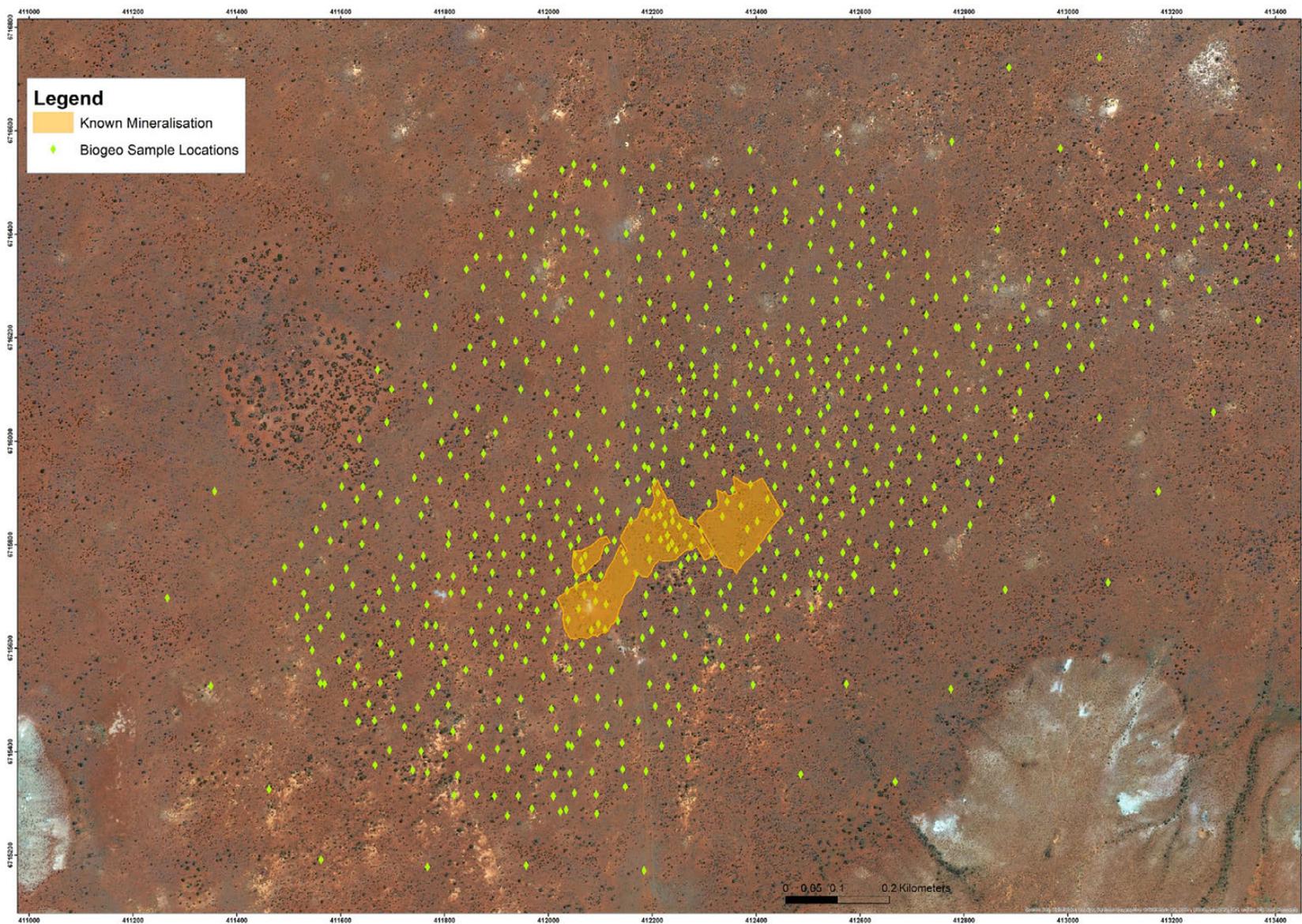
Sampling of plant tissue for chemical assay

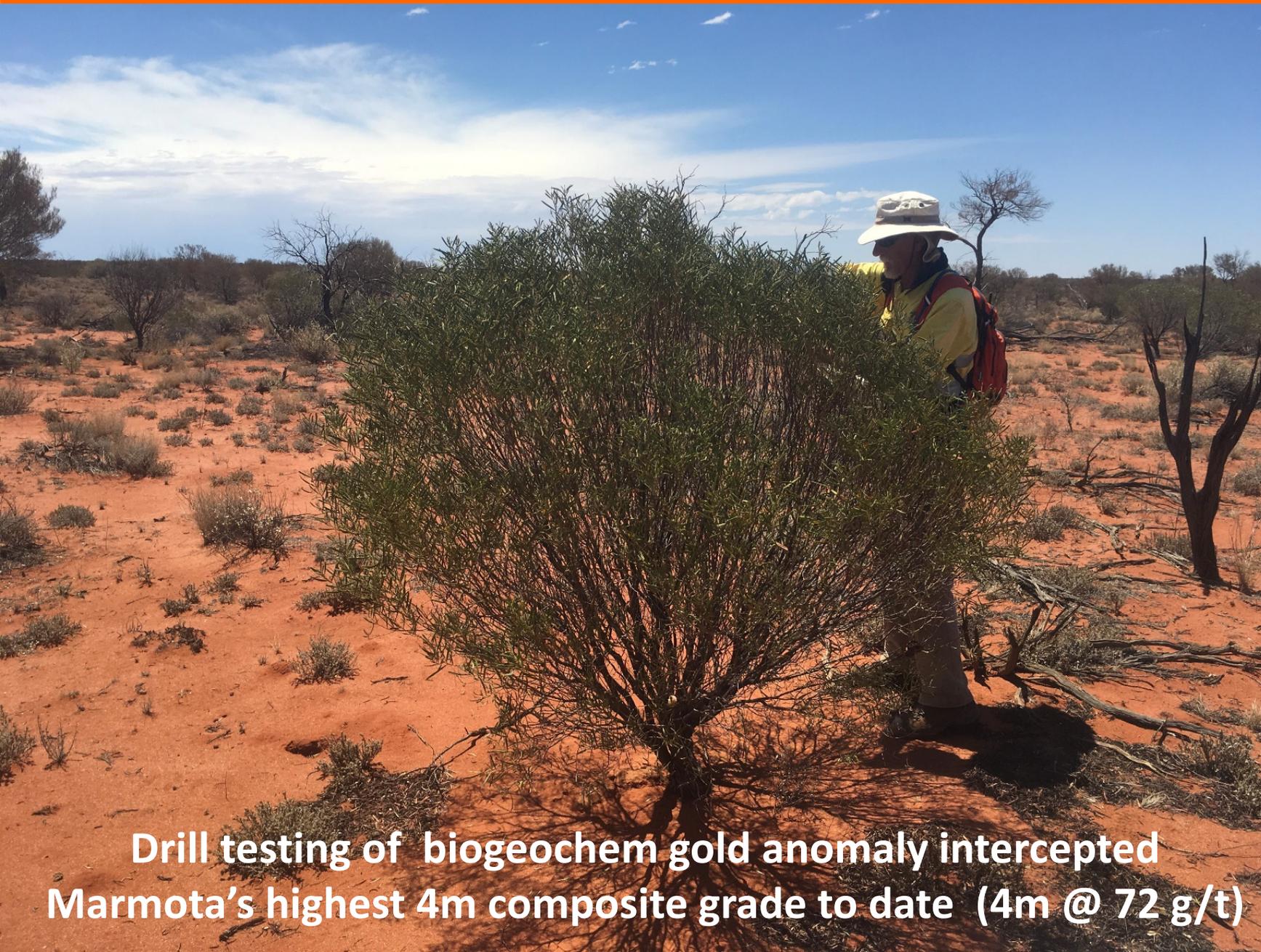
Advantages

- Low impact
 - 2 people by foot or quad bikes
- Rapid sampling
 - 60 - 90 samples per day
- Cost competitive with soil or calcrete analysis
- Depth penetration of roots
 - Arid zone, drought tolerant plants, as deep as is needed to get water
- Large root surface area interacting with the soil



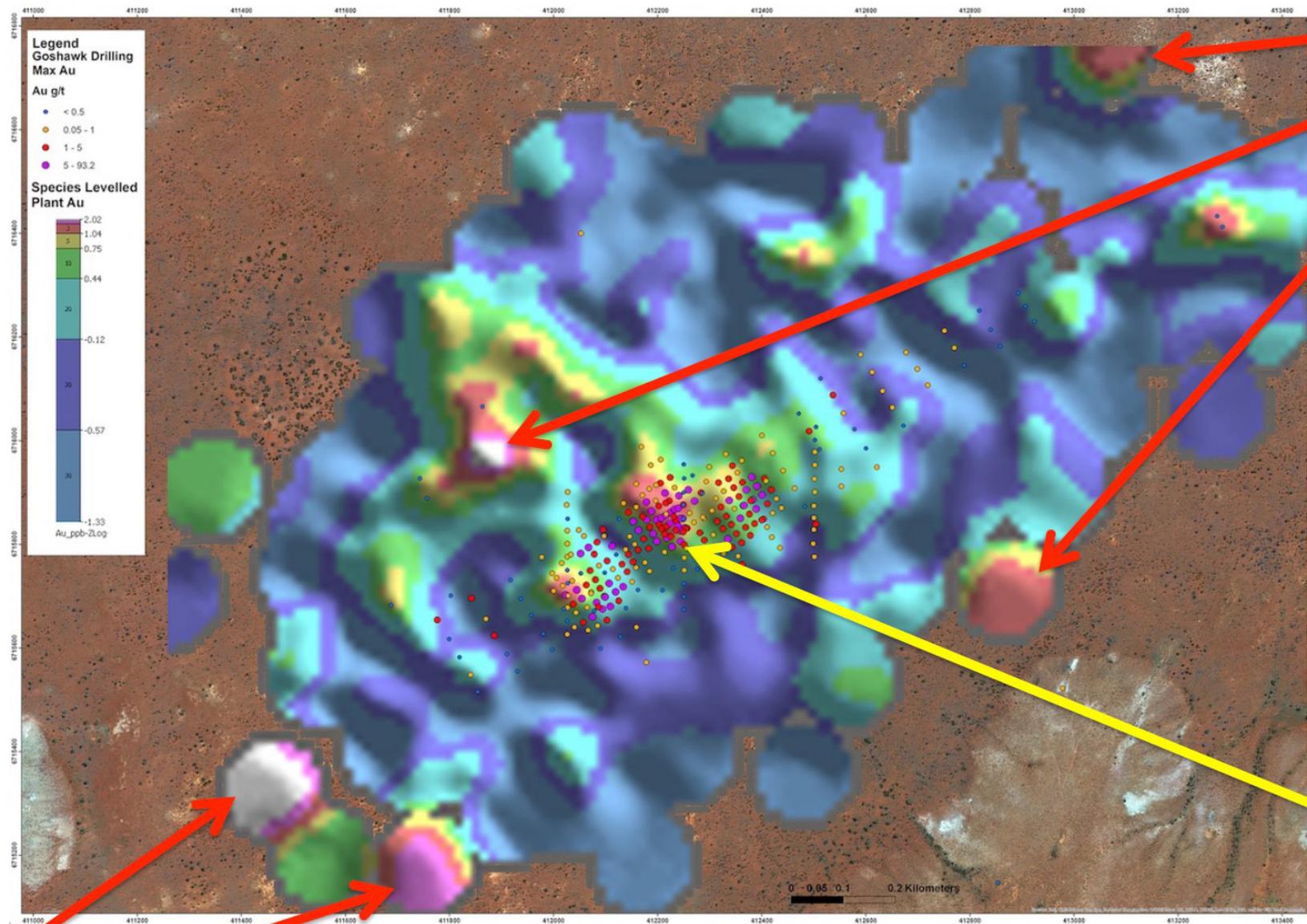
- 776 samples collected
- 2 species sampled
 - Acacia aneura (496)
 - Senna (280)
- Average 75 samples per day
- Sampling method optimised to avoid contamination
- Samples dried, prepped and assayed by LabWest





Biogeochem has yielded new gold anomalous targets that are not apparent from previous calcrete sampling

Drill testing of biogeochem gold anomaly intercepted Marmota's highest 4m composite grade to date (4m @ 72 g/t)



New targets

New exploration targets within 500m of known mineralisation

Aurora Tank Gold Discovery

Gold biogeochem contours* + drill results with max Au

Note: White zones denote highest biogeochem gold anomalies

* Statistically levelled biogeochemical gold assays

- **Largest drill program now being planned**
 - **Extensional drilling** guided by new biogeochem results
 - **Recon drilling** to test **new biogeochem gold targets**
- **Scoping study**, including heap leach vs milling options
- Select optimal pathway to **low-cost, low capex production**



Disclaimer

Disclaimer

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Cautionary Statement

Estimates of exploration target sizes mentioned above should not be misunderstood or misconstrued as estimates of Mineral Resources. The estimates of exploration target sizes are conceptual in nature and there has been insufficient results received from drilling completed to date to estimate a Mineral Resource compliant with the JORC Code (2004) guidelines. Furthermore, it is uncertain if further exploration will result in the determination of a Mineral Resource.

Forward Looking Statement

This report may contain forward looking statements that are subject to risk factors which are based on MEU’s expectations relating to future events. Forward-looking statements are subject to risks, uncertainties and other factors, many of which are outside the control of MEU, which could cause actual results to differ materially from such statements. MEU makes no undertaking to update or revise the forward-looking statements made in this report to reflect events or circumstances after the date of this release.

Competent Persons Statement

Information in this exploration update relating to Exploration Targets, Exploration Results and Mineral Resources is based on information compiled by Dr Kevin Wills, who is a Member of the Australasian Institute of Mining and Metallurgy. He has sufficient experience which is relevant to the styles of mineralisation, metallurgical testwork and types of deposits under consideration and to the activities being undertaken to qualify as a Competent Person as defined in the 2012 Edition of the “Australasian Code of Reporting of Exploration Results, Mineral Resources and Ore Reserves.” Dr Wills consents to the inclusion in this report of the matters based on this information in the form and context in which it appears.

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