



Aurora Tank Gold: Tests show gold is predominantly *primary*

Marmota Limited (ASX: MEU) ("Marmota")

Highlights

- **Gold grains from high-grade Aurora Tank gold intersection tested**
- **Found to be predominantly *primary* mineralisation**
- **Colour indicates high purity gold**

Background

As highlighted in recent ASX releases [[ASX:MEU 19 Sept 2019](#), [27 Feb 2020](#), [8 April 2020](#)], Marmota's drilling at Aurora Tank has yielded multiple outstanding high-grade intercepts, across multiple distinct zones at Aurora Tank. [Figure 1](#), for instance, shows 3 different zones where assays have returned 1m intercepts with **grades of around 100 g/t gold**.

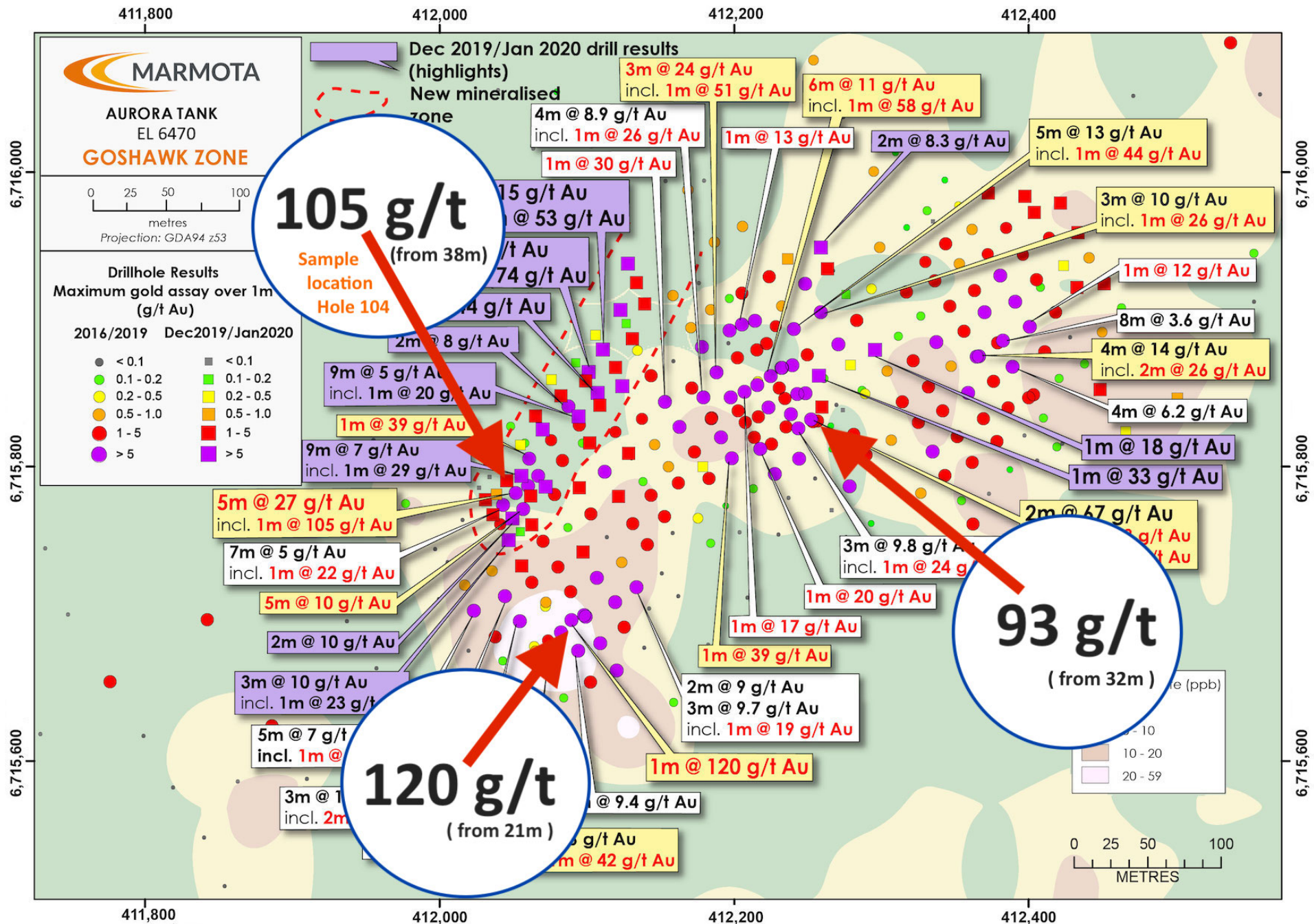
This in turn raises the question as to whether such mineralisation at Aurora Tank is predominantly the result of:

- Primary mineralisation** (also known as *hypogene*)
Hypogene processes occur at high temperatures and the mineralisation is likely to continue to depth; **OR**
- Secondary enrichment** (also known as *supergene* enrichment)
Secondary enrichment is a low temperature concentrating process that occurs when gold is leached from above and redeposited in the weathered zone of an ore deposit (near the surface).

Mineragraphic Work Completed

Marmota selected a high-grade intersection from hole 18ATRC104 for analysis. To help resolve whether the high-grade intersection is predominantly **PRIMARY** or **SECONDARY**, Marmota has:

- 1. 'Panned' the first gold from Aurora Tank** to yield a physical sample of myriads of fine gold grains
The gold grains were obtained by Bureau Veritas who were supplied with drill chips from RC drill-hole 18ATRC104 at 38m-39m downhole (105 g/t gold) and some material from 39m to 40m (at 14 g/t). Bureau Veritas then obtained the gold sample of abundant fine gold grains by concentration from the drill chips via crushing, wilfley tabling and superpanning.
- 2.** The sample of fine gold grains was then sent to Adelaide Petrographic Laboratories for sample preparation and section production, producing polished grain mounts in epoxy resin, and investigated using mineragraphic techniques and photomicrography.
- 3.** The sections were then taken to the Adelaide Microscopy Centre at Adelaide University, for analysis using a high-resolution Scanning Electron Microscope (SEM), with the work carried out by Teale and Associates Pty Ltd.



Page 3 **Figure 1: Aurora Tank – Location of Gold Grains Sampled (see top bubble: Hole 104) and Best downhole gold results**

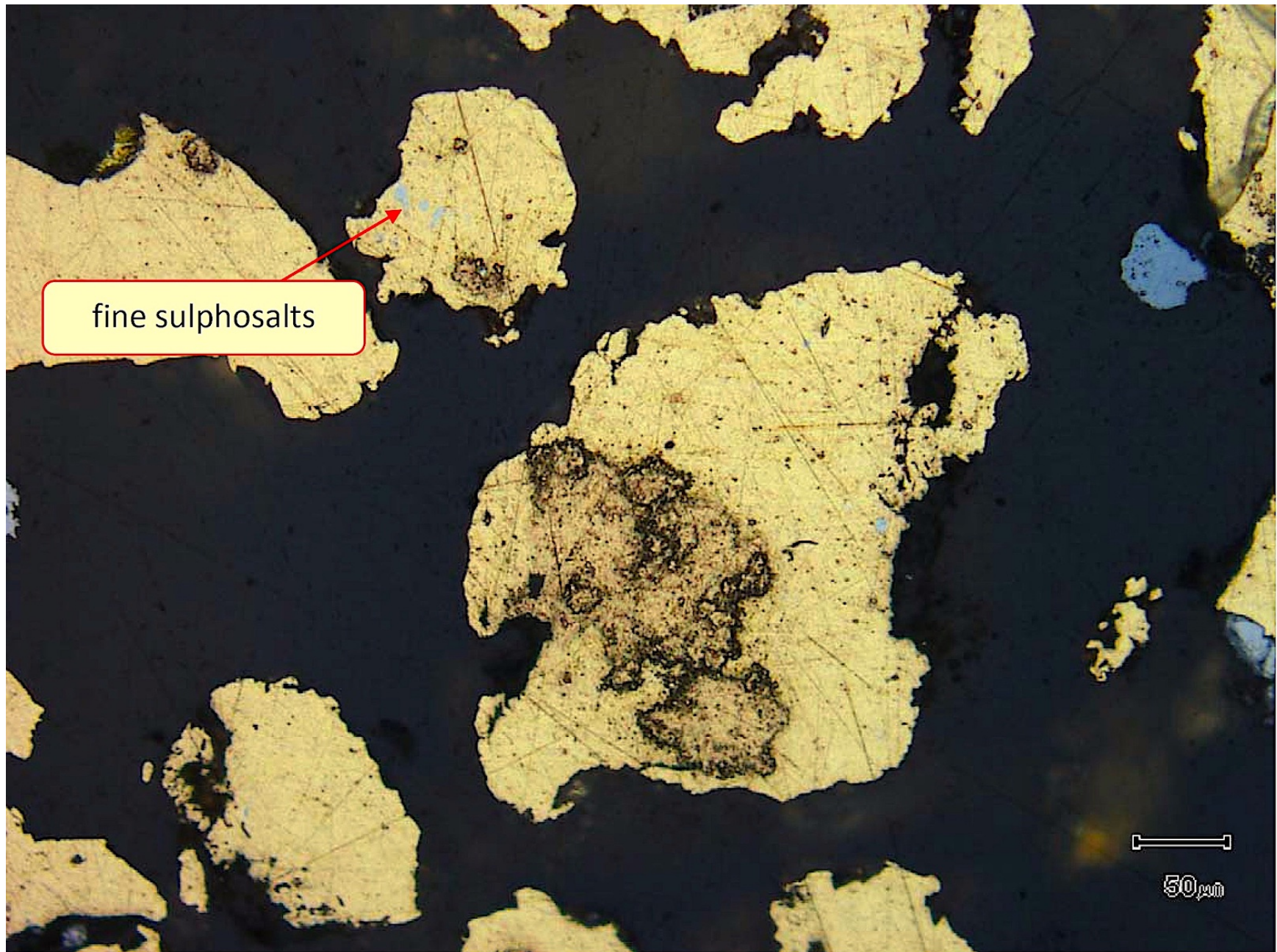
Results: Analysis of Aurora Tank gold grains

The report finds that:

- **Most gold grains examined from the 18ATRC104 intersection are considered to be hypogene (primary) – not supergene (secondary).**

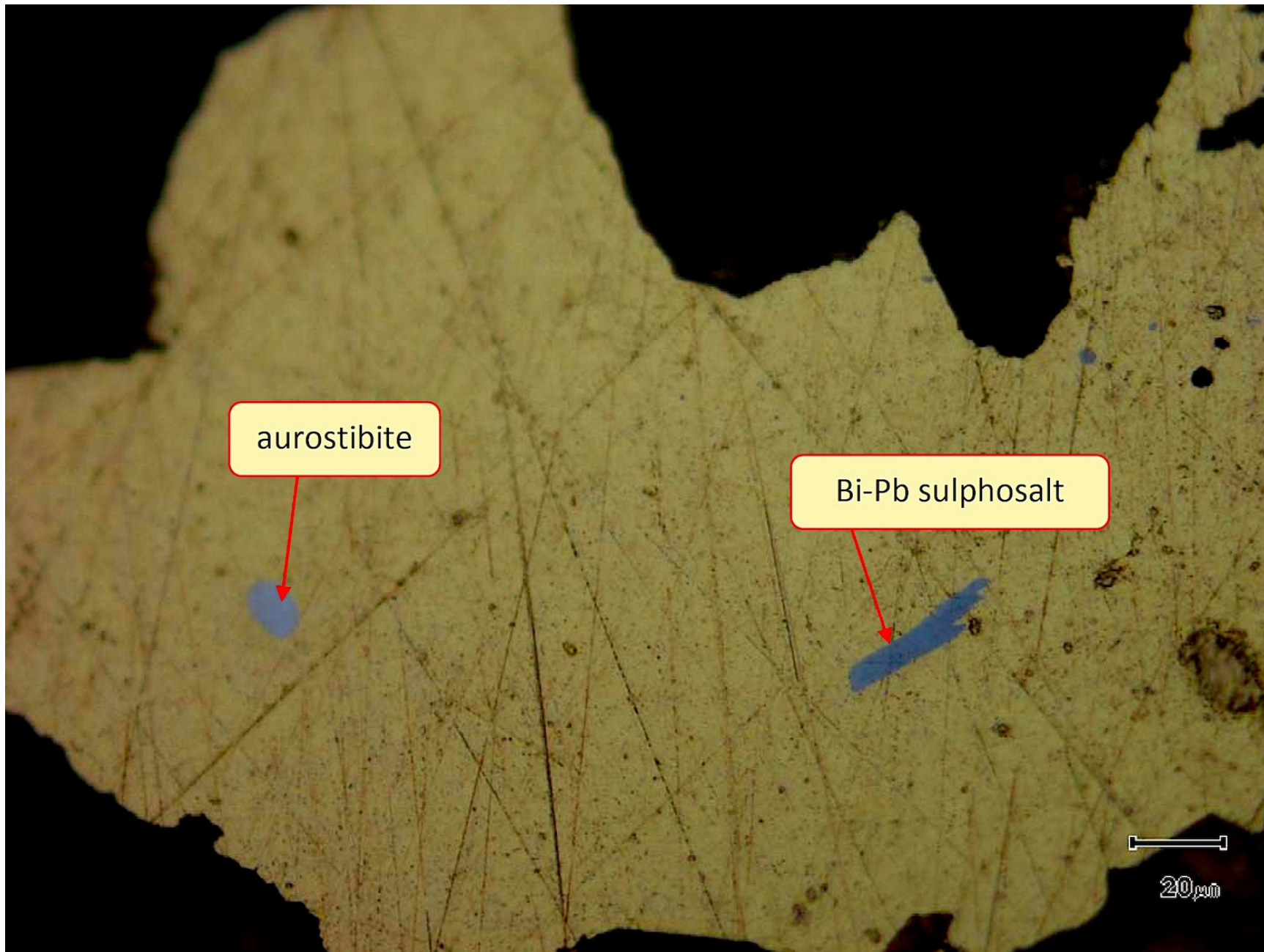
Gold grains analysed generally contained abundant fine to coarse inclusions of alloys and sulphosalts/sulphides.

- **Figures 2 – 5** illustrate some of the primary minerals included into the Aurora Tank gold grains. **Figure 5** illustrates some of the few ‘spongy’ gold grains which are considered supergene.
- Gold grains in the sample range in size from 8µ to 0.6mm and are a distinct and bright yellow. The **colour indicates high purity gold** (low silver content) and this was confirmed by SEM analysis.
- The reflected light investigations and the SEM study identified the following minerals — and suggest a predominantly primary hypogene origin:
 - Gold, aurostibite, Ni-bearing aurostibite, galena, pyrite, Sb-Ni-Au alloy, arsenopyrite, Bi-Au-Sb sulphide, Fe-Cu-Zn-Au sulphide (gold-rich tetrahedrite), horobetsuite (Bi-Sb sulphide), jordanite (an Pb-As-Sb sulphide) and Bi-Ni-bearing aurostibite. Gudmundite (FeSbS) was located by Pontifex and Associates Pty Ltd (using XRD) in an earlier report on samples from this project.



(Mag. x 200; scale bar = 50µ; reflected light)

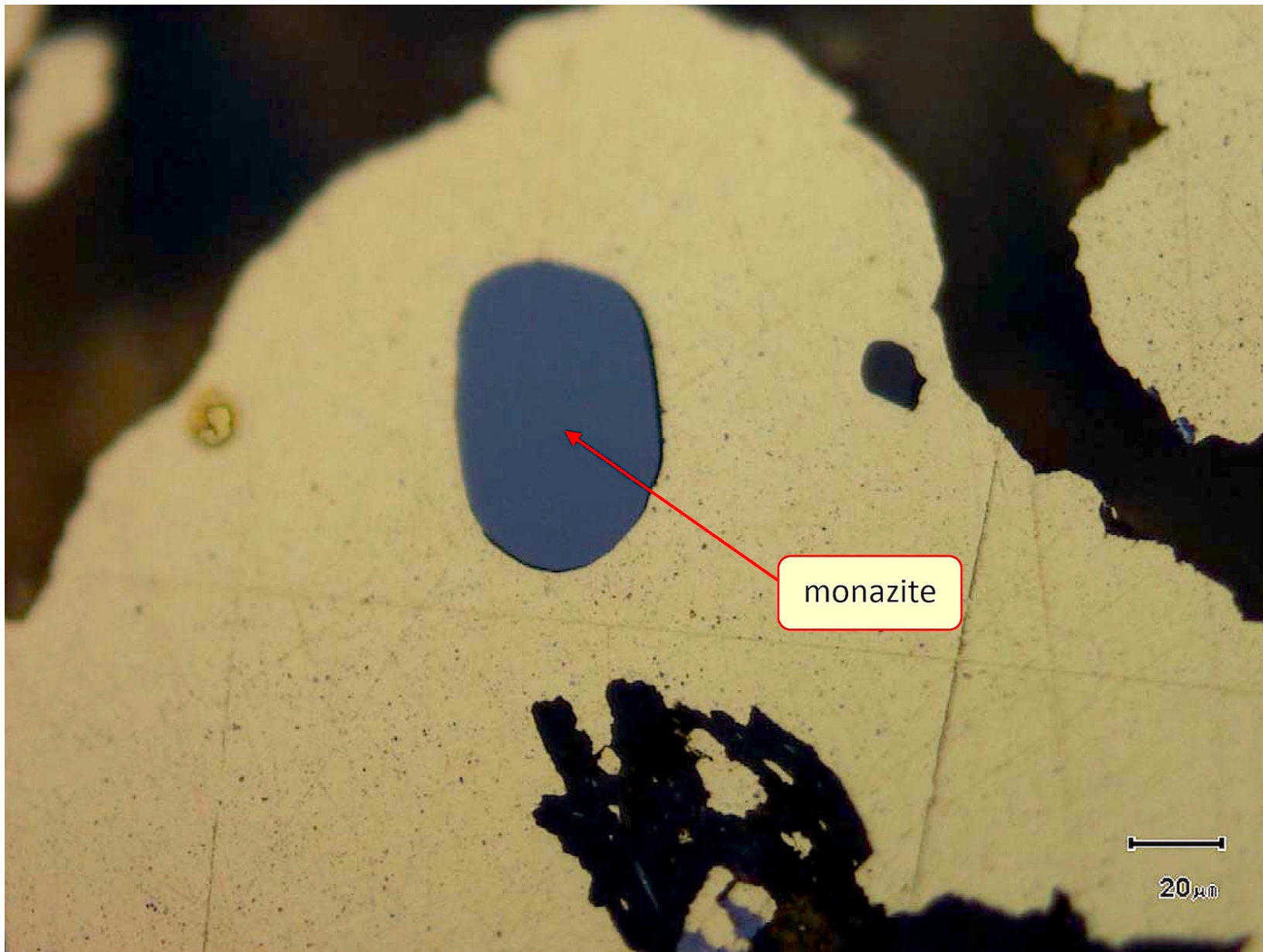
Fig 2: Primary Hypogene Gold grains sampled from Hole 104 at Aurora Tank
Diagram shows fine-grained sulphosalts (Bi-Sb-rich) contained within the hypogene gold particles



(Mag. x 500; scale bar = 20 μ ; reflected light)

Fig 3: Primary Hypogene Gold grains sampled from Hole 104 at Aurora Tank

Reflected light photomicrograph shows inclusions of aurostibite and Bi-Pb sulphosalts contained within the hypogene gold particles



(Mag. x 500; scale bar = 20 μ ; reflected light)

Fig 4: Hypogene Gold grains sampled from Hole 104 at Aurora Tank

Diagram shows a large hydrothermal monazite inclusion within the hypogene gold particle

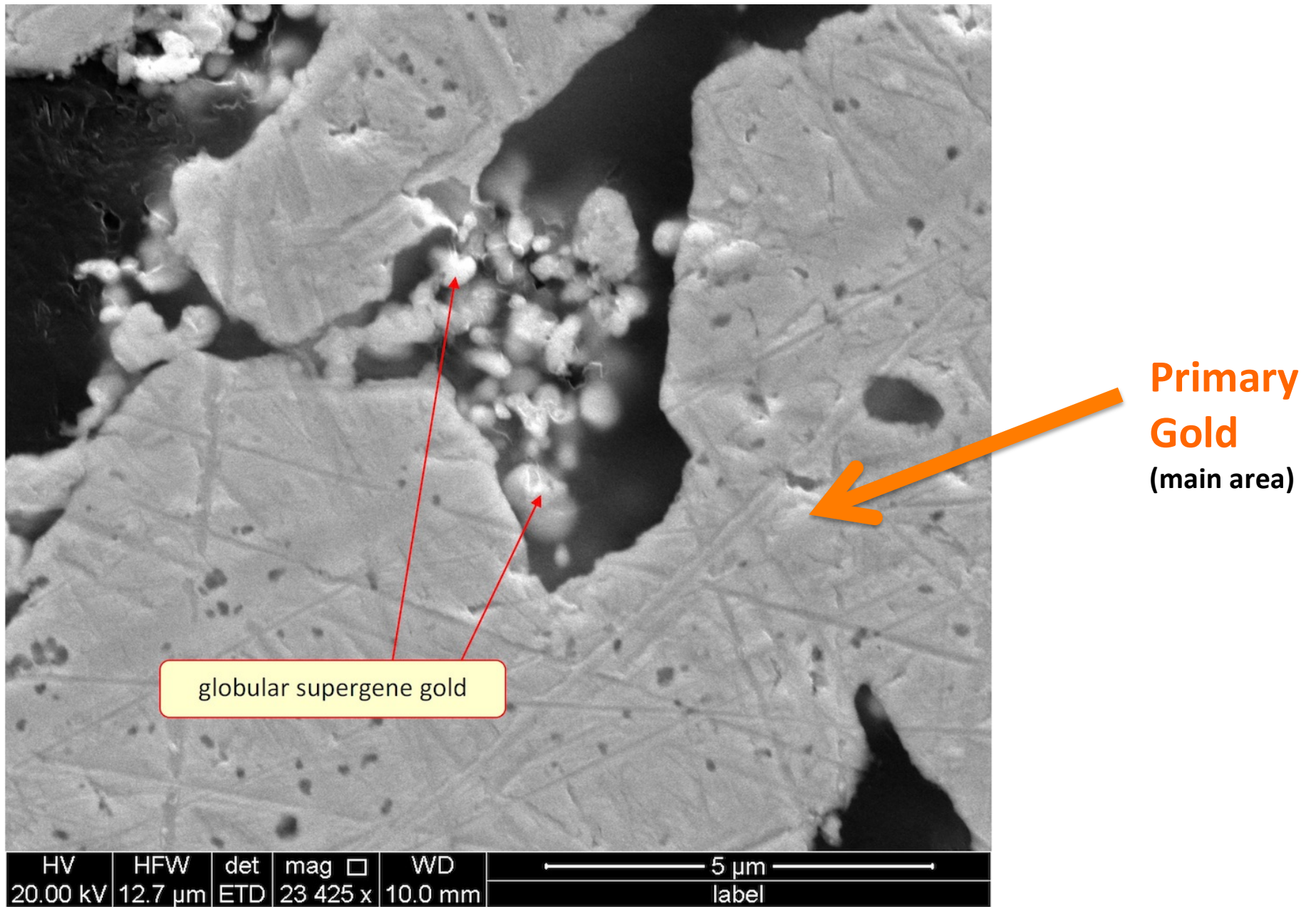


Fig 5: B&W image contrasting primary gold (main picture) with globular secondary gold (see red arrows)
Secondary electron image shows supergene (secondary) gold grains that are attached to the larger primary gold grain at Aurora Tank.
The linear marks across the gold are polishing scratch marks.

Marmota Head of Exploration, Dr Kevin Wills, said:

“ This work has opened up a new level of understanding of the nature of gold mineralisation at Aurora Tank. A large variety of sulphides and alloys are present as small inclusions in the gold and accompanying sulphides that are associated with the following elements: As, Bi, Cu, Ni, Pb, Sb & Zn.

Most of the gold grains and associated sulphide minerals examined appear of primary hypogene origin and their host mineralised lodes can be expected to geologically continue to depth below the zone currently drilled. ”

Marmota Chairman, Dr Colin Rose, said:

“ The abundance of primary mineralisation of such high-grade is very encouraging, particularly as we embark on drilling deeper, below the weathered zone. ”

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About Marmota Limited

Marmota Limited (ASX: MEU) is a South Australian mining exploration company, focused on gold, copper and uranium. Gold exploration is centred on the Company's dominant tenement holding in the highly prospective and significantly underexplored Gawler Craton, near the Challenger gold mine, in the Woomera Prohibited Defence Area. The Company's copper project is based at the Melton project on the Yorke Peninsula. The Company's uranium project is at Junction Dam adjacent to the Honeymoon mine.

For more information, please visit: www.marmota.com.au

Competent Persons Statement

Information in this Release relating to Exploration Results is based on information compiled by Dr Kevin Wills, who is a Fellow of the Australasian Institute of Mining and Metallurgy. He has sufficient experience which is relevant to the styles of mineralisation 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.

Where results from previous announcements are quoted, Marmota confirms that it is not aware of any new information or data that materially affects the information included in the relevant market announcement and, in the case of estimates of Mineral Resources, that all material assumptions and technical parameters underpinning the estimates in the relevant market announcement continue to apply and have not materially changed.