

Vulcan IOCGU Discovery

The Search Continues

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Tasman Project Locations



**Lake Torrens (1,803 km²)
IOCGU**

**Lucas Hill (264 km²)
IOCGU**

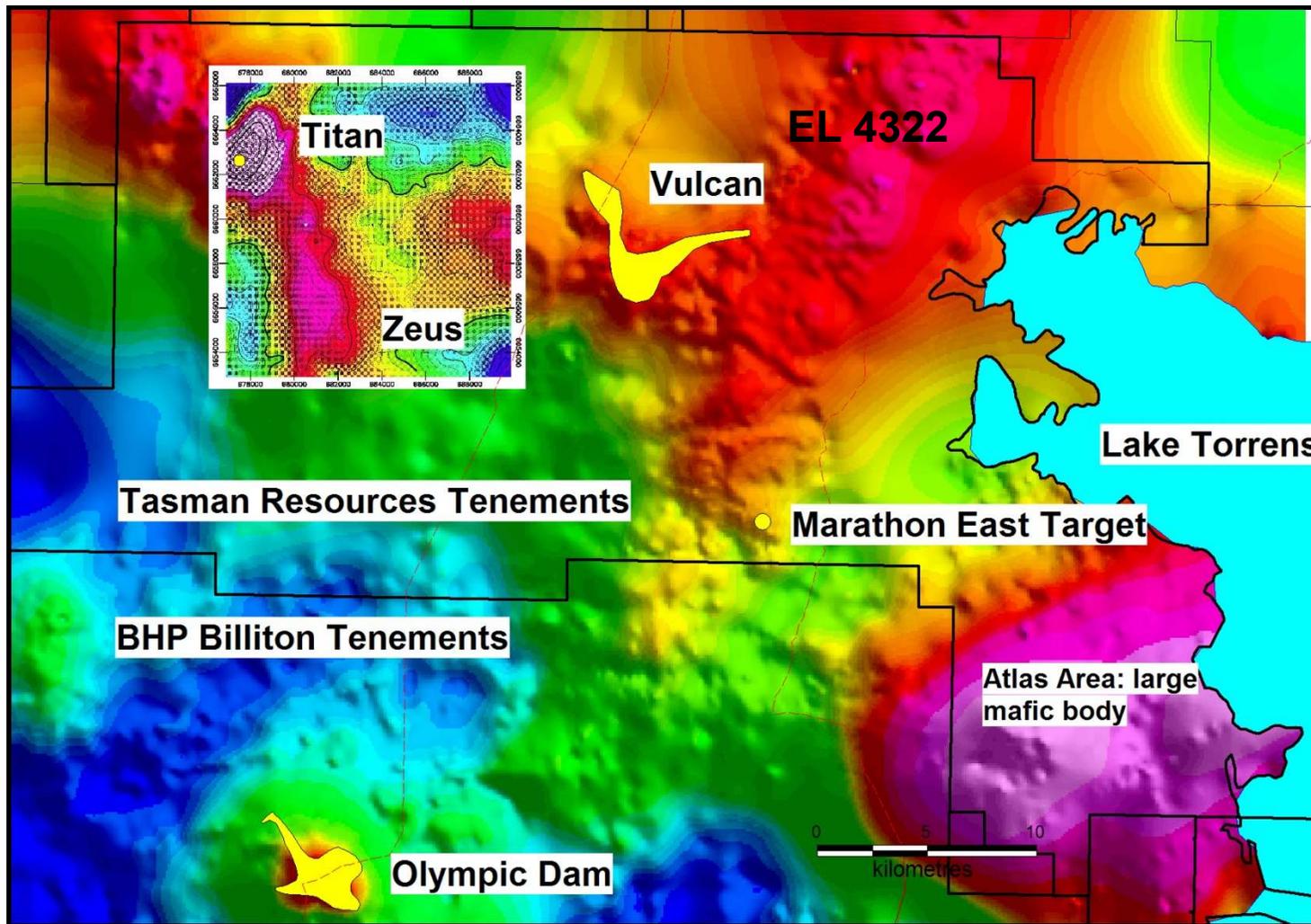
**Parkinson Dam (194 km²)
Epithermal Au, Ag, Zn/Pb**

**Central Gawler (447 km²)
Au**



Lake Torrens Project

Bouguer Gravity (+residual insert)





Vulcan IOCGU Discovery

- 1981 WMC: first hole – SHD 1; barren, off - structure
- 2009 Tasman reinvestigation:
 - New gravity data
 - Geophysical remodelling
 - Tectonic data synthesis
 - GA seismic reinterpreted
- 2009 Tasman drills VUD 1 at north – hits Vulcan IOCGU system
- 2010 Further gravity, modelling, 4 further holes (at north)
- 2011 Further 3 holes (north and east)
- 2011 (Oct) Tasman announces conditional Rio Tinto JV
- 2012 (Sept- Dec) 4 holes (5,200m) (at south)
- 2013 (March- Sept) ≈ 5 holes (6,800m) -Tasman managing



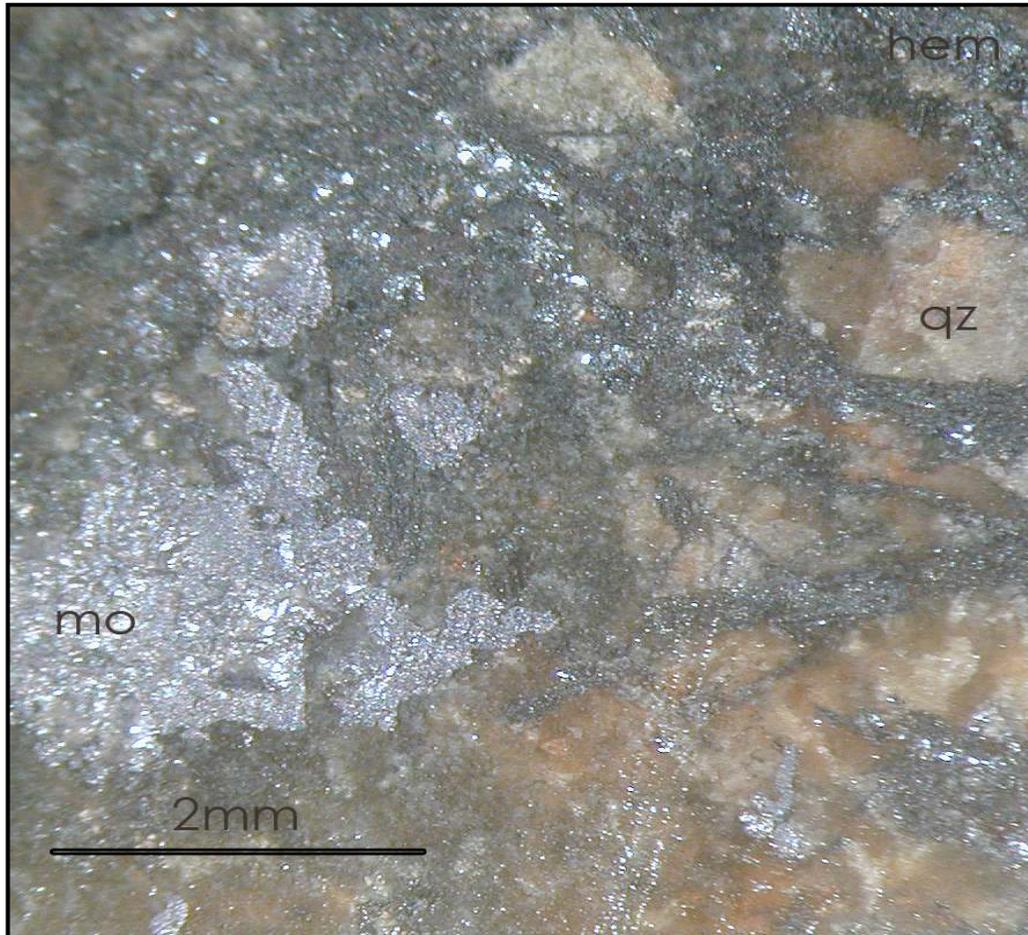
Vulcan - Summary

- Large hematite-dominant IOCGU system (~ 12km²) 30km north of Olympic Dam
- Hosted by granite, volcanics and metasediments(?)
- 12 holes drilled and assayed:
 - Very thick & strong alteration, inc. 100's metres of hematite breccias; intense sericite and carbonate alteration
 - Very thick, low grade IOCGU mineralisation (Cu, U, Au, Ag, Mo, REE)
 - Narrower, high grades locally
- Mineralisation dated at 1590my by Re-Os (PACE 2020)
- Tasman – Rio Tinto JV – 4 holes Sept 2012 (5,200m)
- March 2013 – 6,800 m drilling programme commenced



Vulcan Geochronology

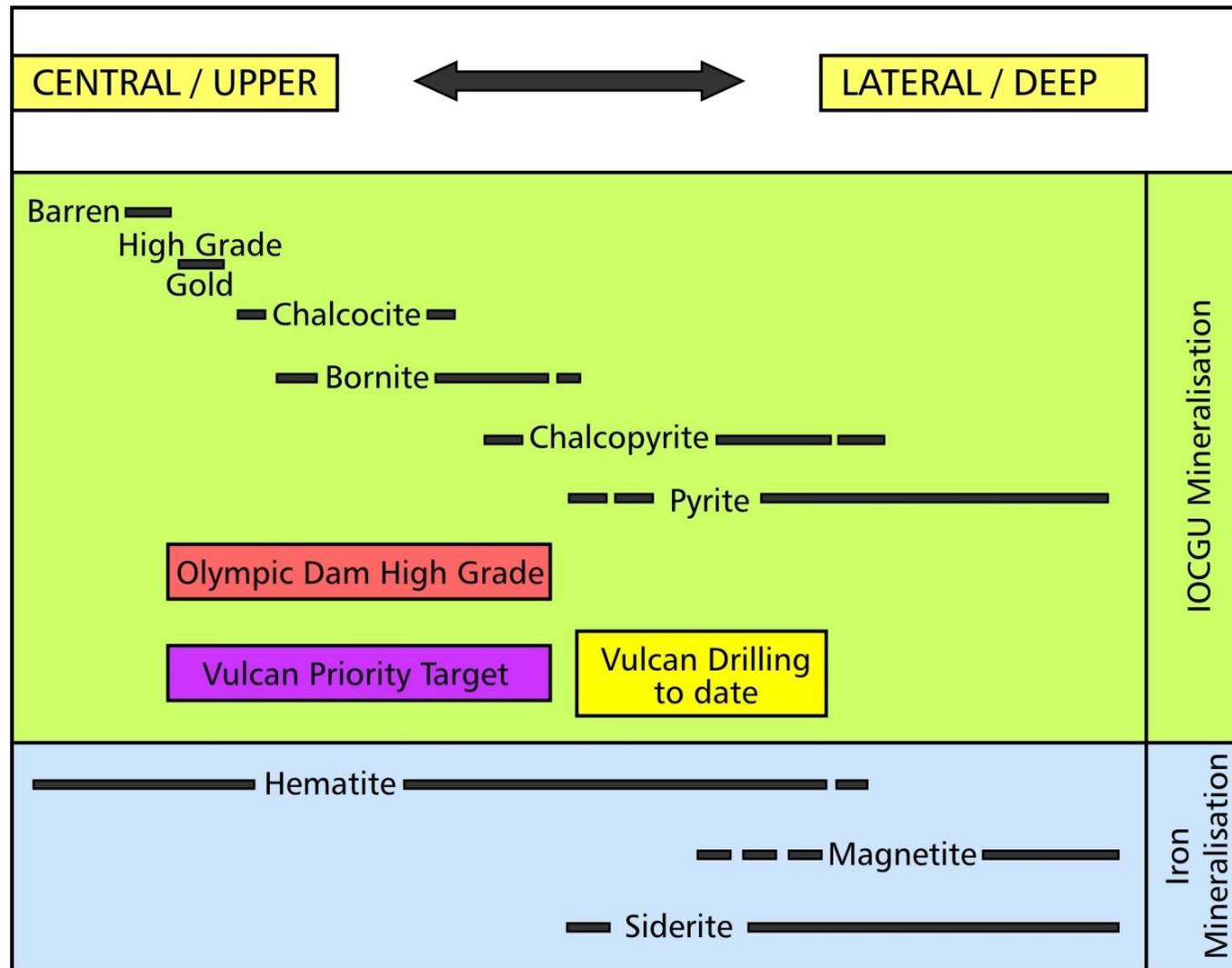
Re^{187} - Os^{187} in MoS_2 (PACE* 2020)



MoS₂ (grey) in VUD 001

- **MoS₂ (molybdenite) widespread at Vulcan - ideal for direct dating of mineralisation**
 - **4 samples from 3 holes - average age 1590 Ma**
 - **1590 Ma consistent with age of GRV and nearby IOCGU systems**
- * Program for Accelerating Exploration, funded by SA Government

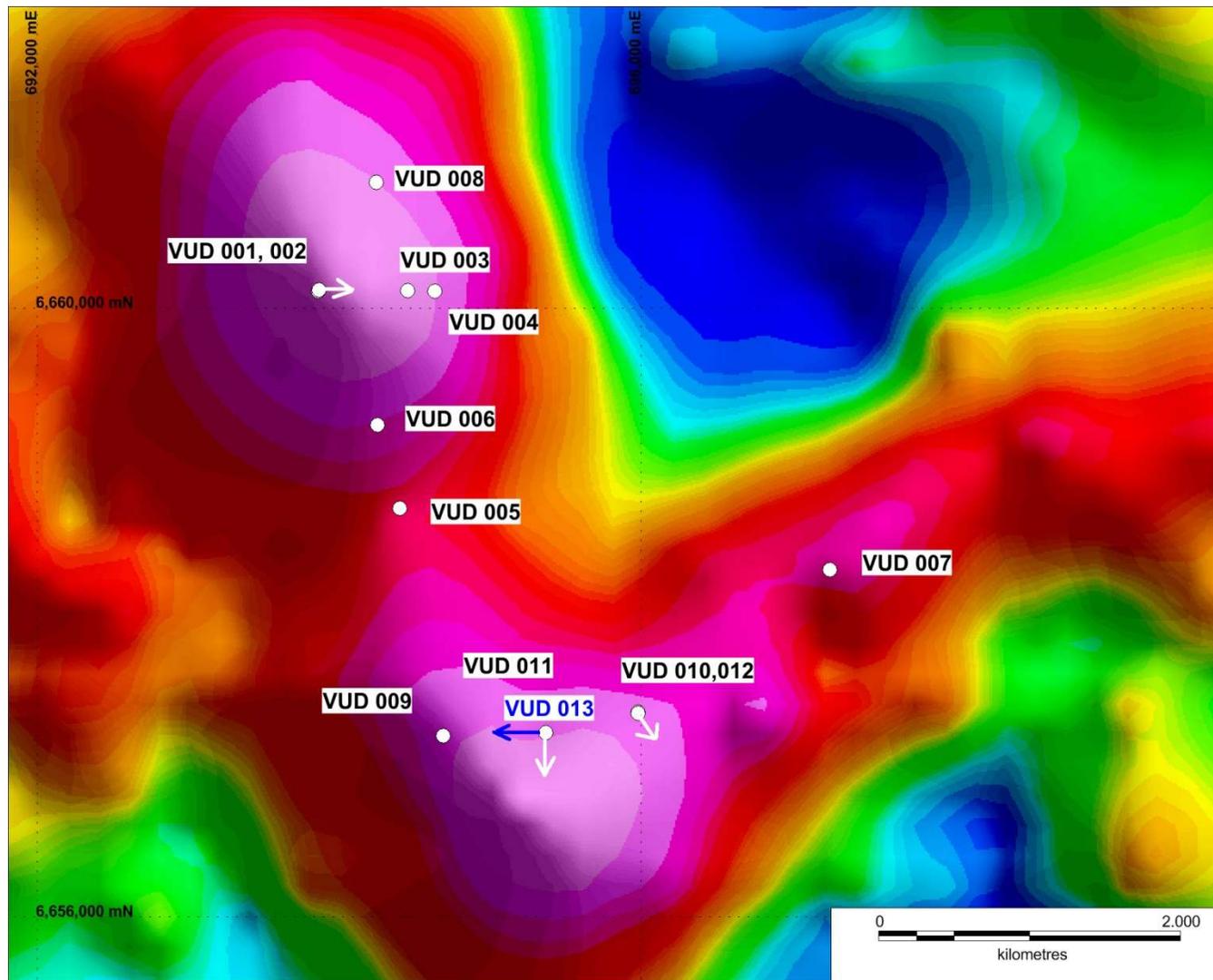
Olympic Dam – Vulcan Zonation Comparison





Vulcan IOCGU Project

Residual Gravity Image showing drilling completed





VUD 3: High Grade Cu - Au - U₃O₈

0.34m at 5.9% Cu, 2.23g/t Au



**0.75m at 4.4% Cu, 1.34g/t Au,
0.58kg/t U₃O₈**



VUD 7: +160m of Mineralised Hematite Breccia





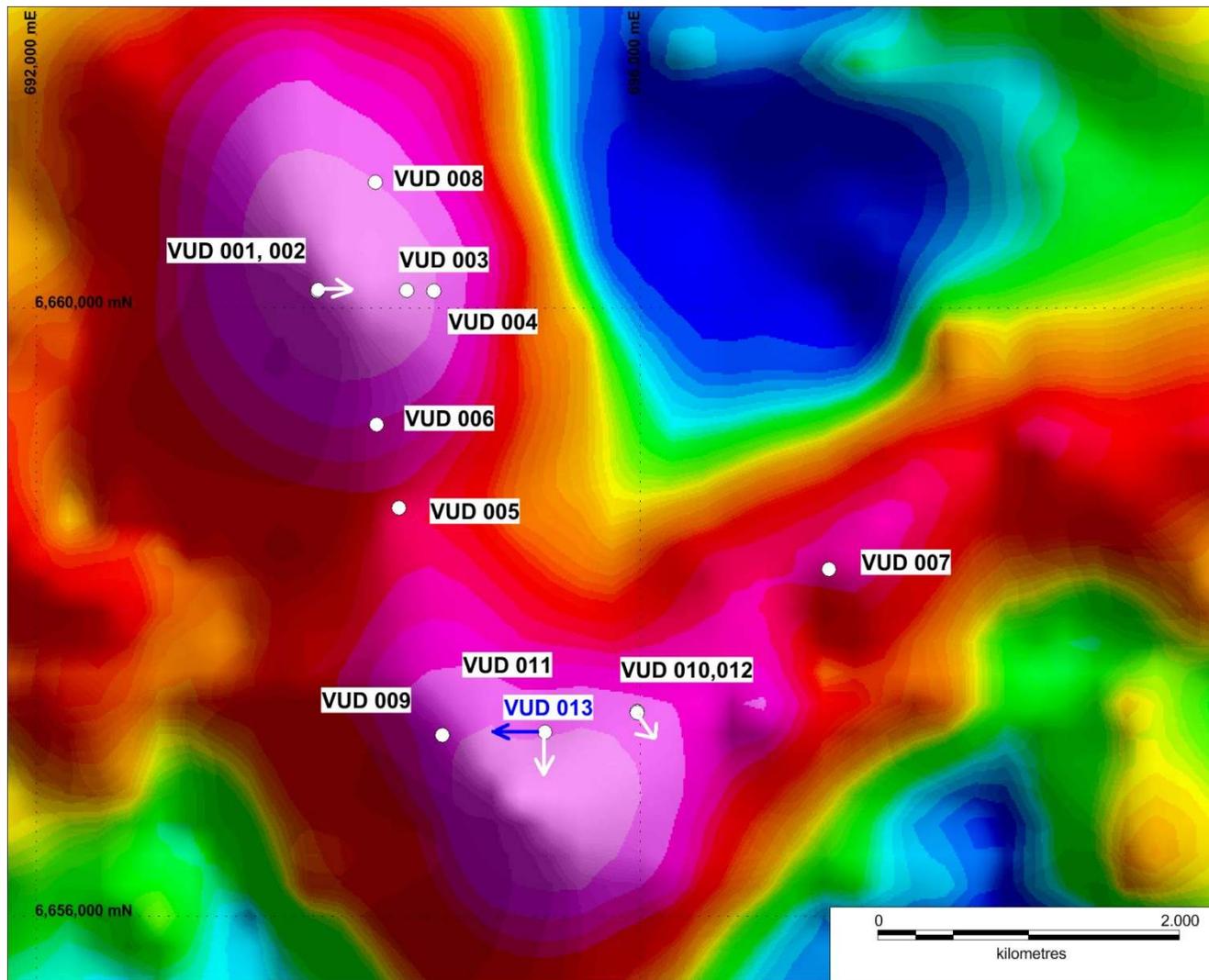
VUD 8: Silica-Hematite Breccia (+ bornite - chalcopyrite)





Vulcan IOCGU Project

Residual Gravity Image showing drilling completed



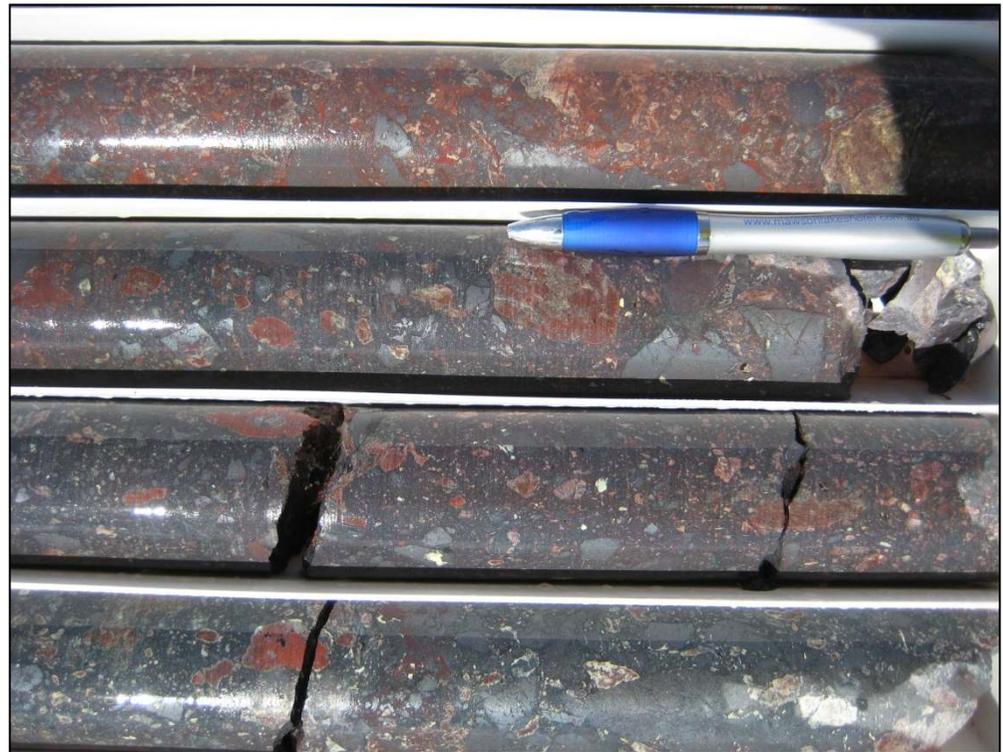
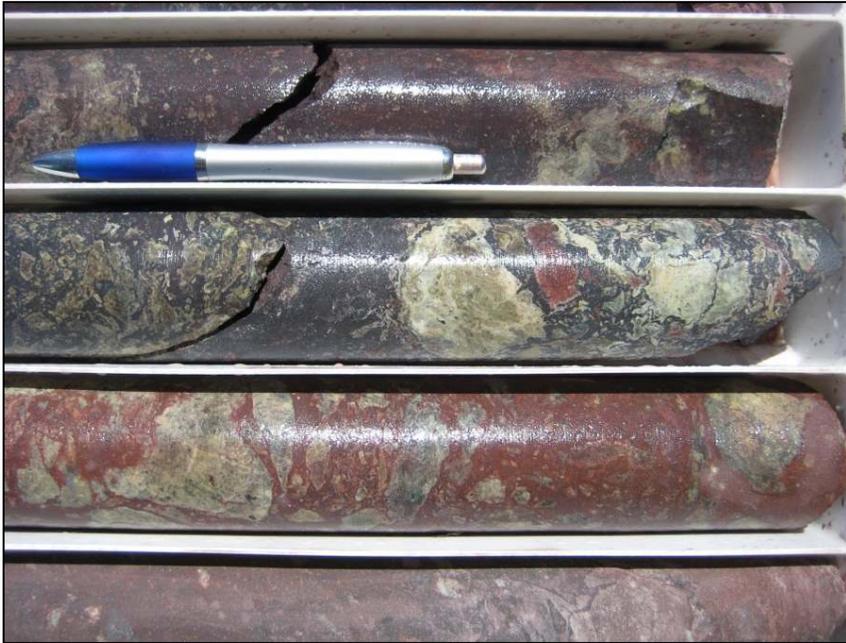


VUD 9: 242m thick hematite breccia





VUD 9: complex, multiphase breccias

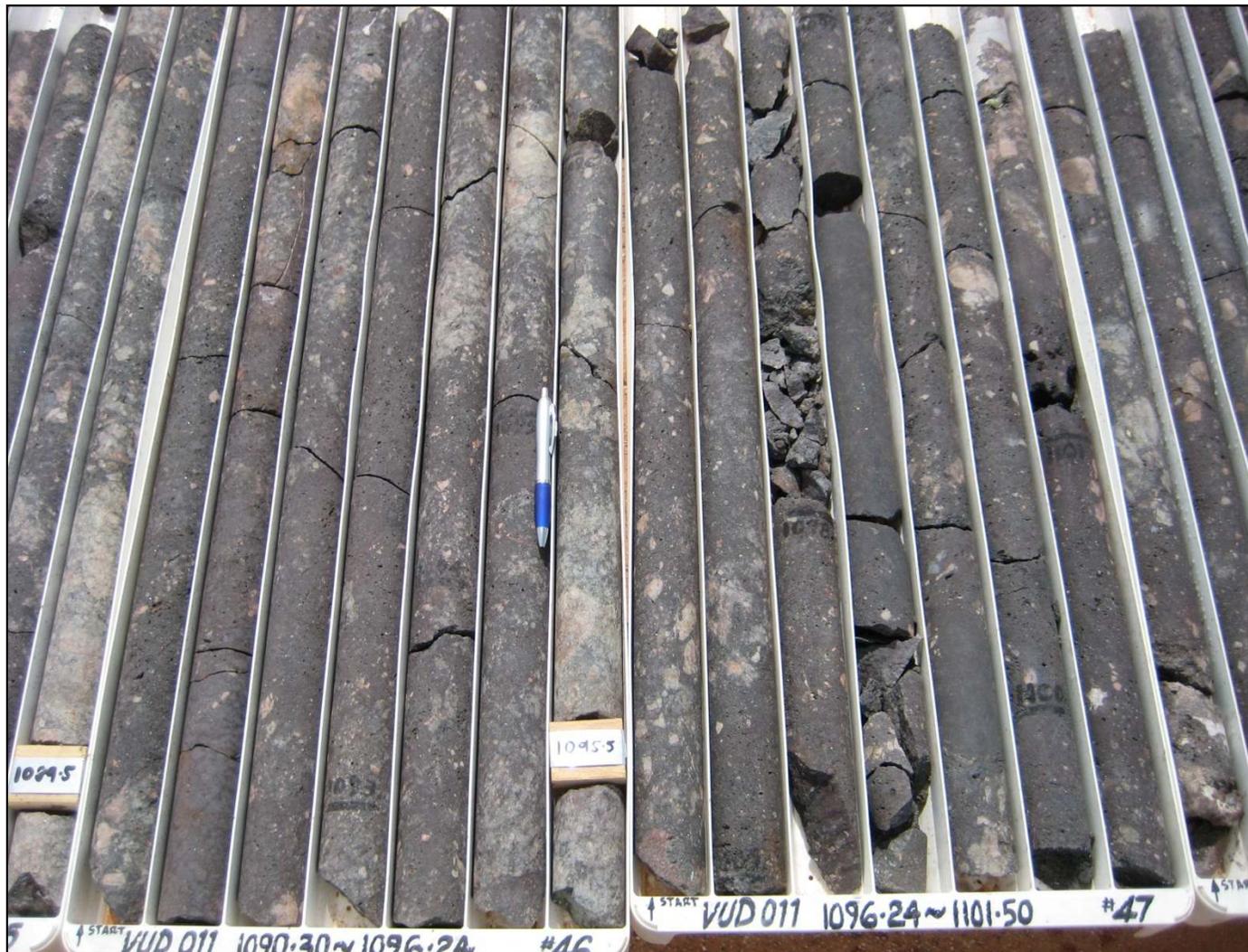




VUD 10: intense sericite-carbonate alteration



VUD 11: Hematite matrix-rich breccias





VUD 11: Breccia – alteration styles



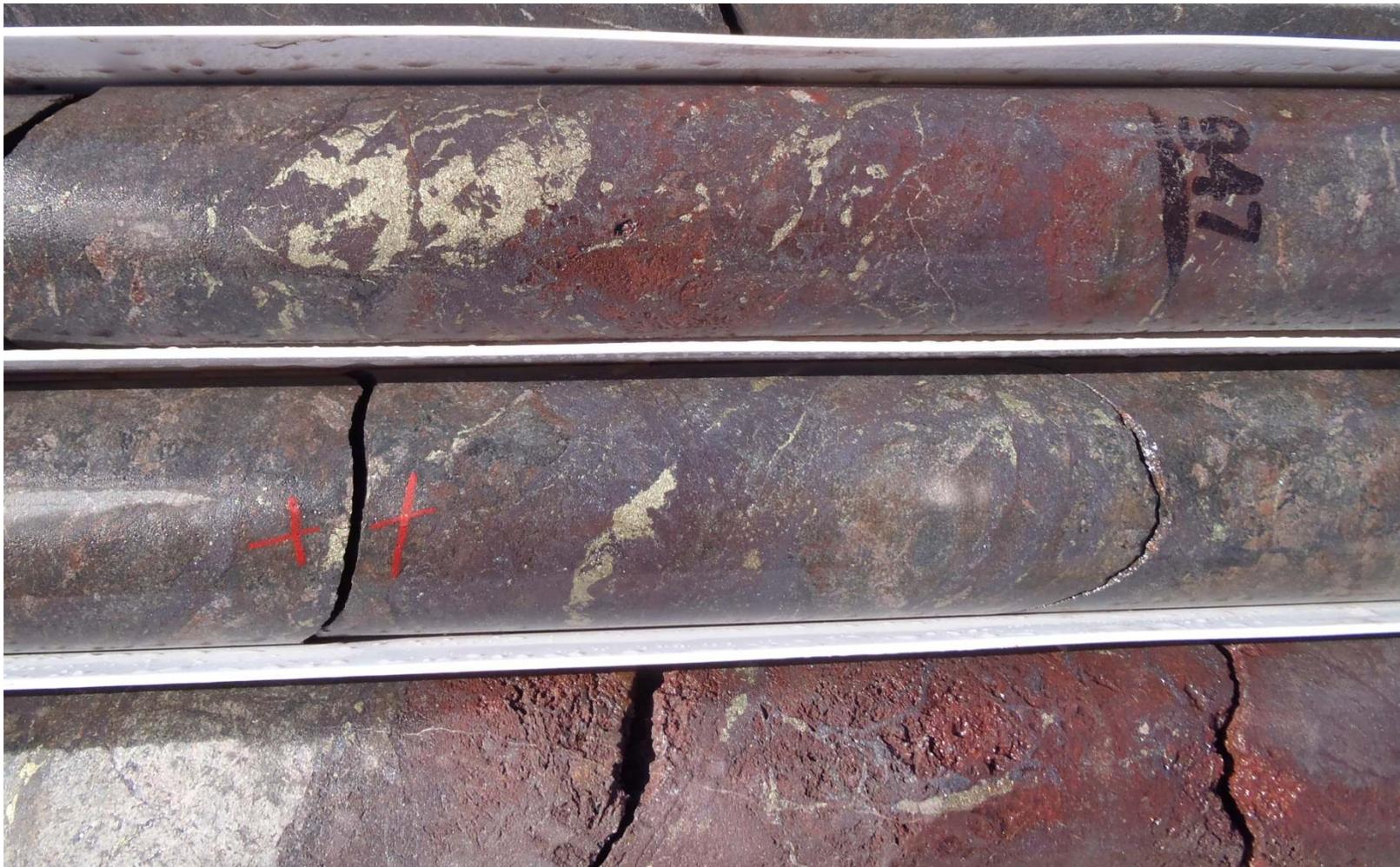


VUD 12: Mineralised hematite-rich breccia





VUD 12: Mineralised hematite-rich breccia





VUD 12: Mineralised hematite-carbonate breccia





VUD 13: Sericite-hematite alteration





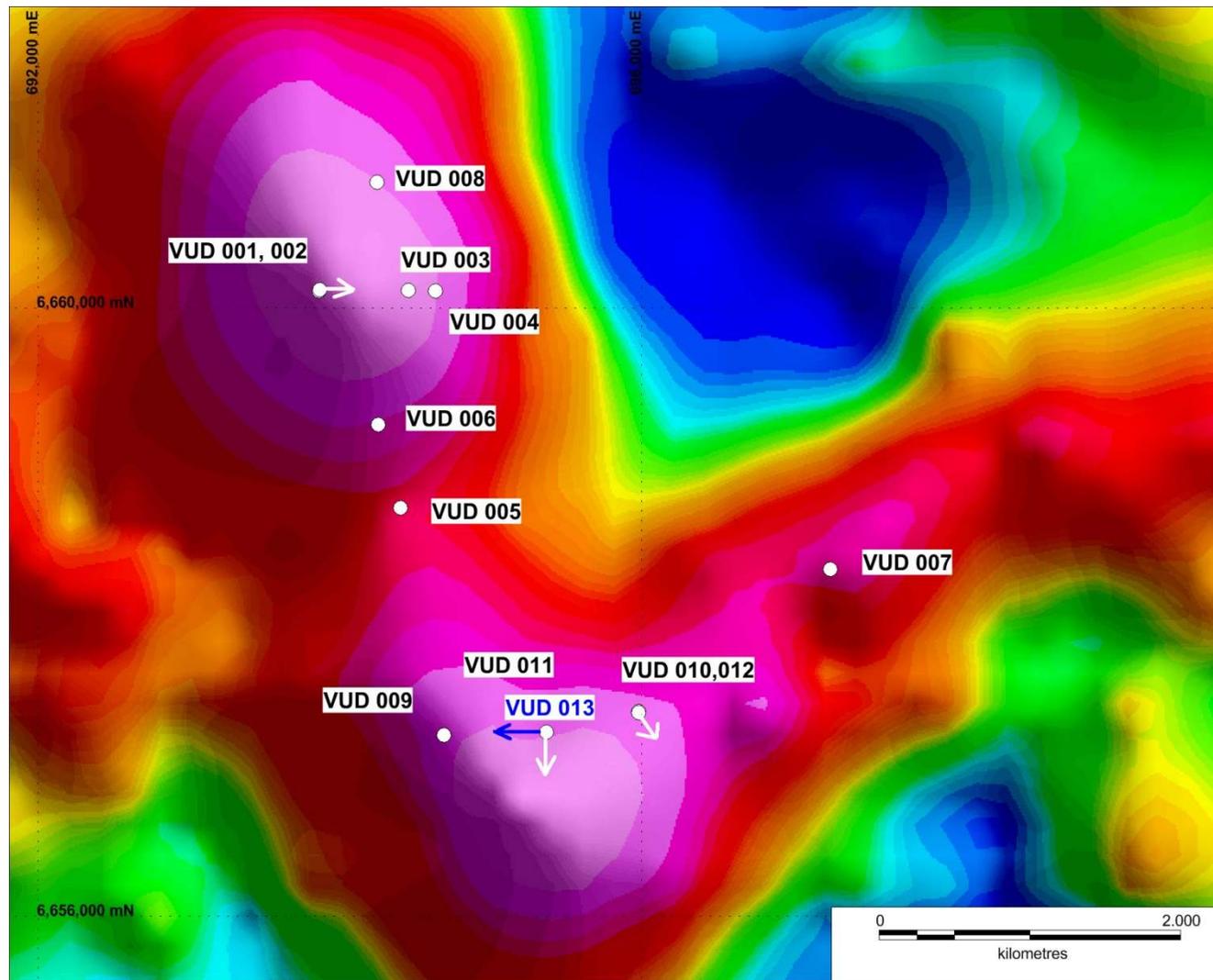
VUD 13: Hematite dominant alteration





Vulcan IOCGU Project

Residual Gravity Image showing drilling completed



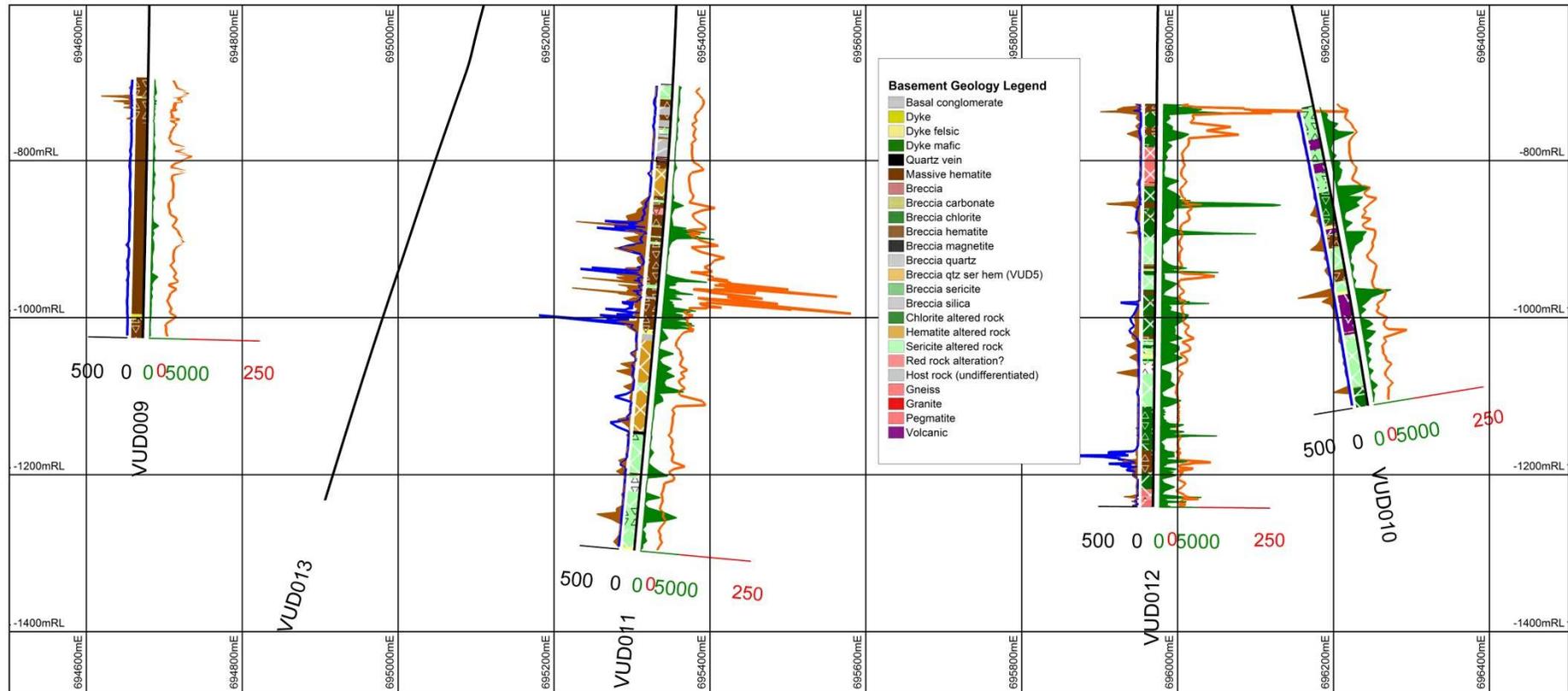


Vulcan South - Long Section VUD 9 - 12

**Basement Downhole
Assay Legend:**

**Cu ppm - green
U₃O₈ ppm - orange**

**Pd ppb - blue
Au ppb - brown**

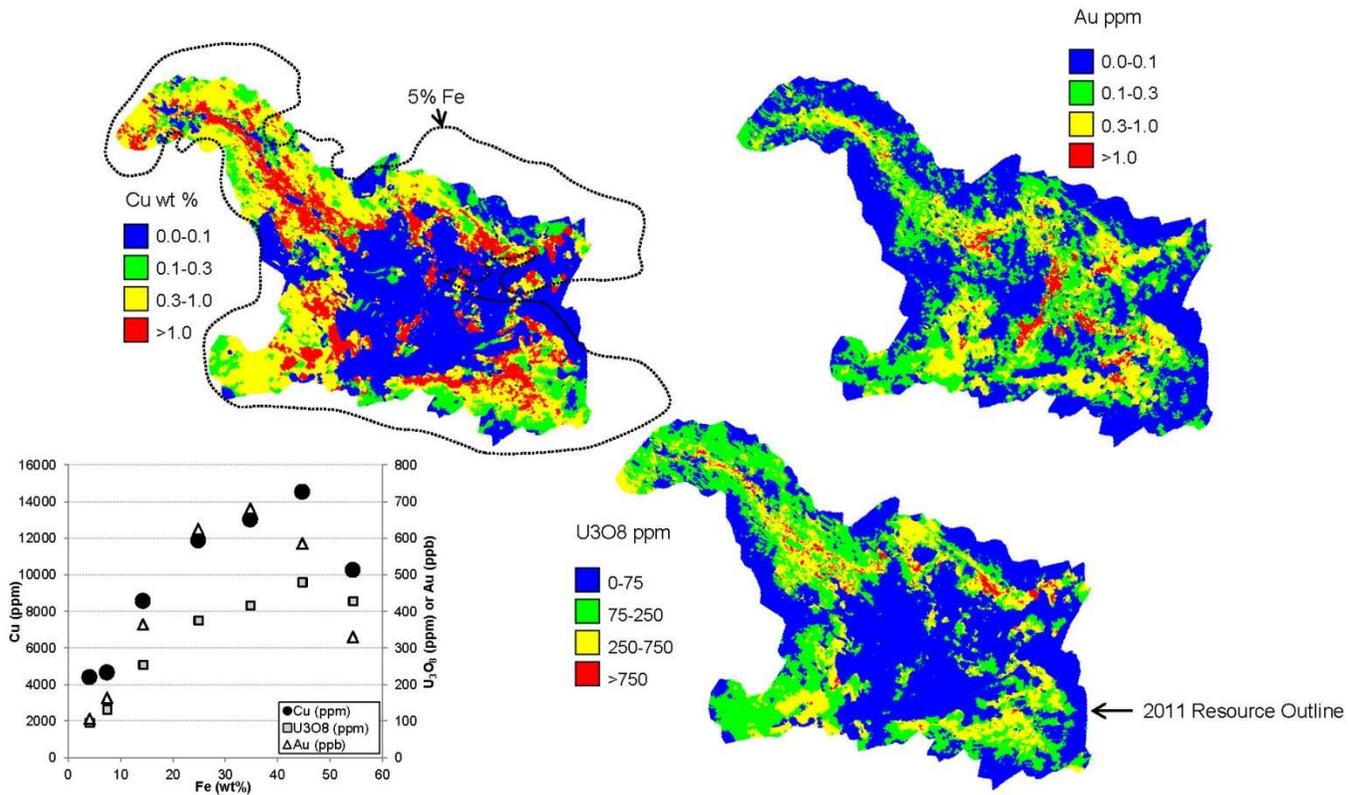




Olympic Dam

(Slide from BHPB Presentation 22nd February 2013)

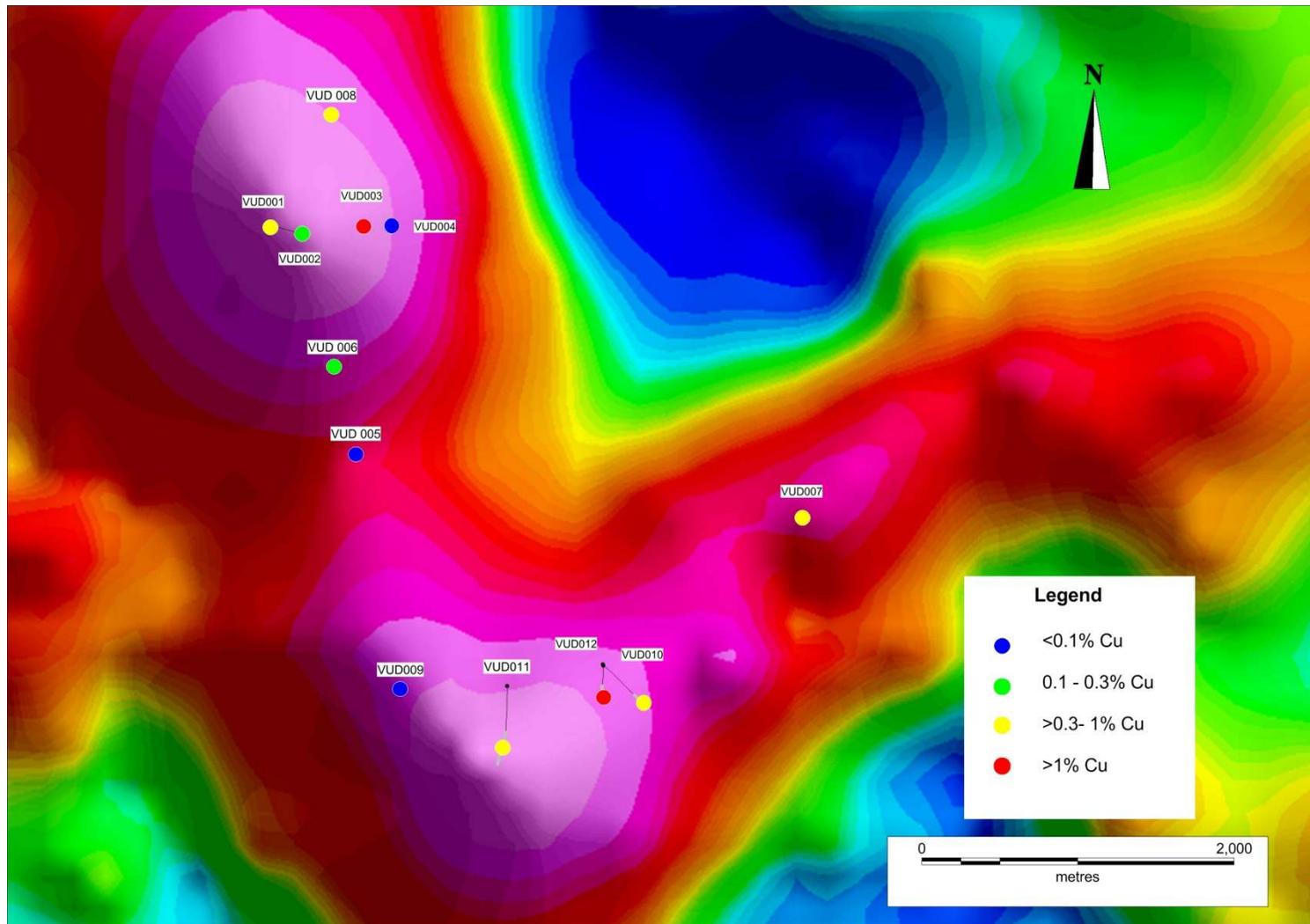
Cu-U₃O₈-Au Relationship





Vulcan Project

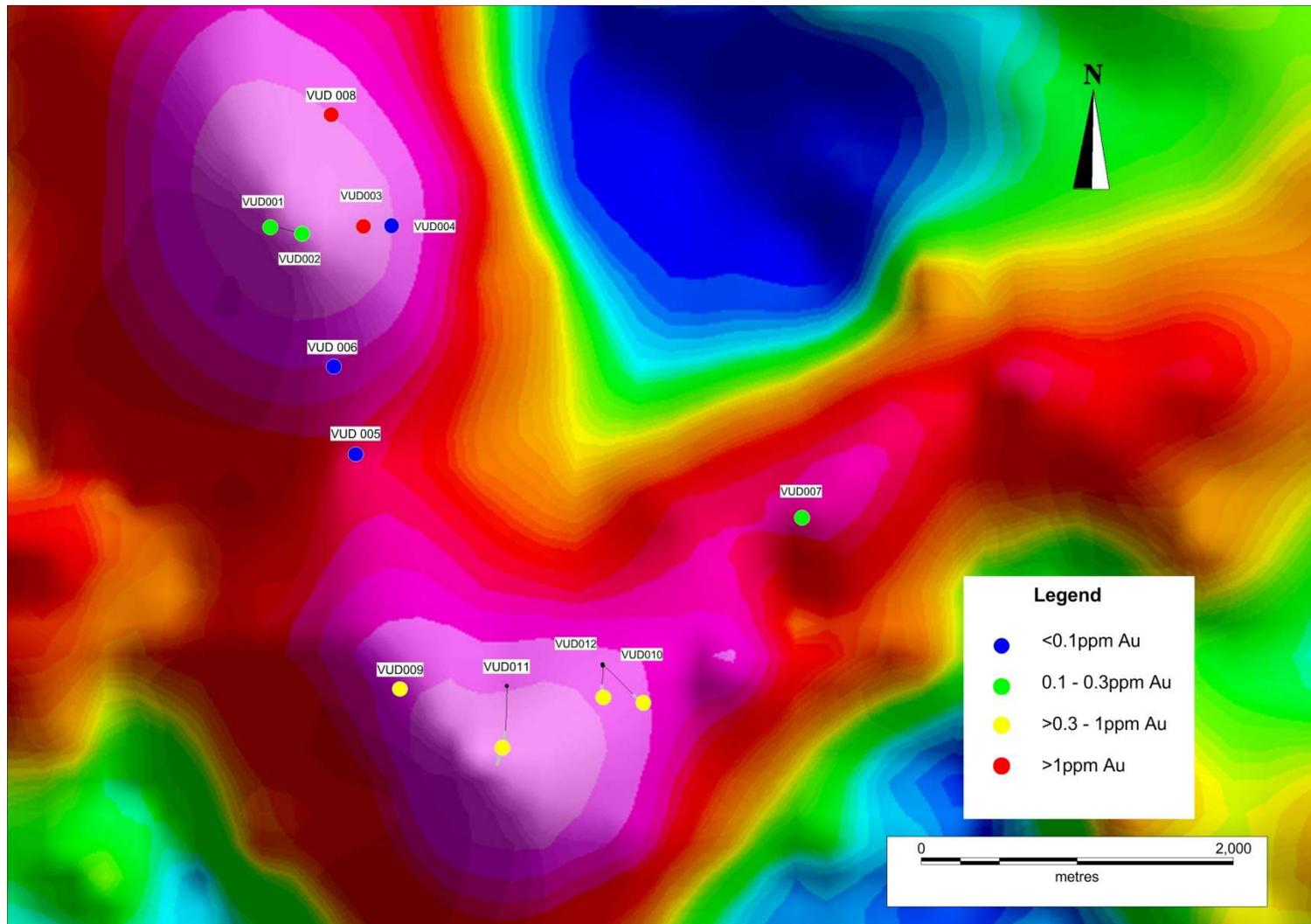
Copper Distribution (maximum assays)





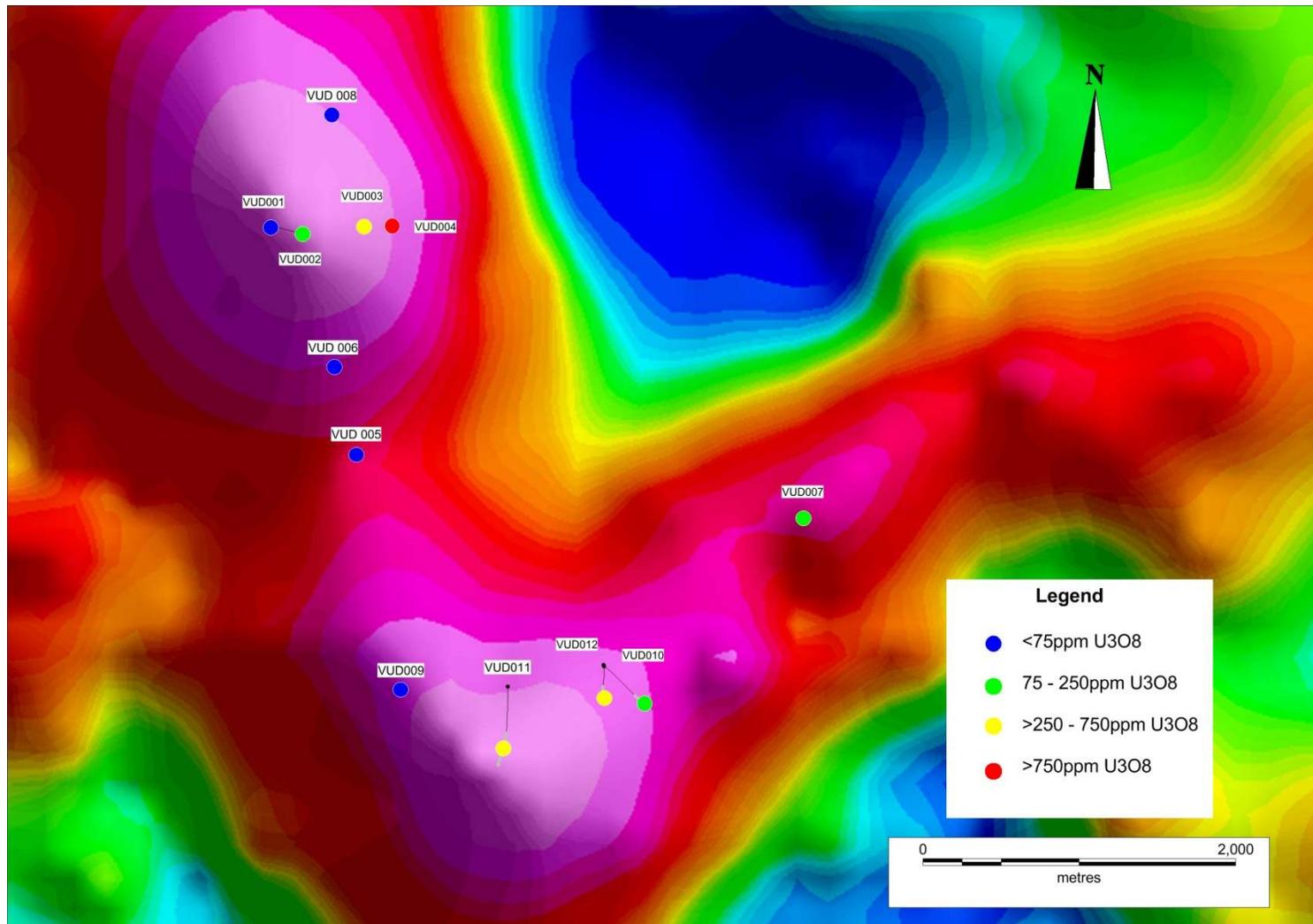
Vulcan Project

Gold Distribution (maximum assays)

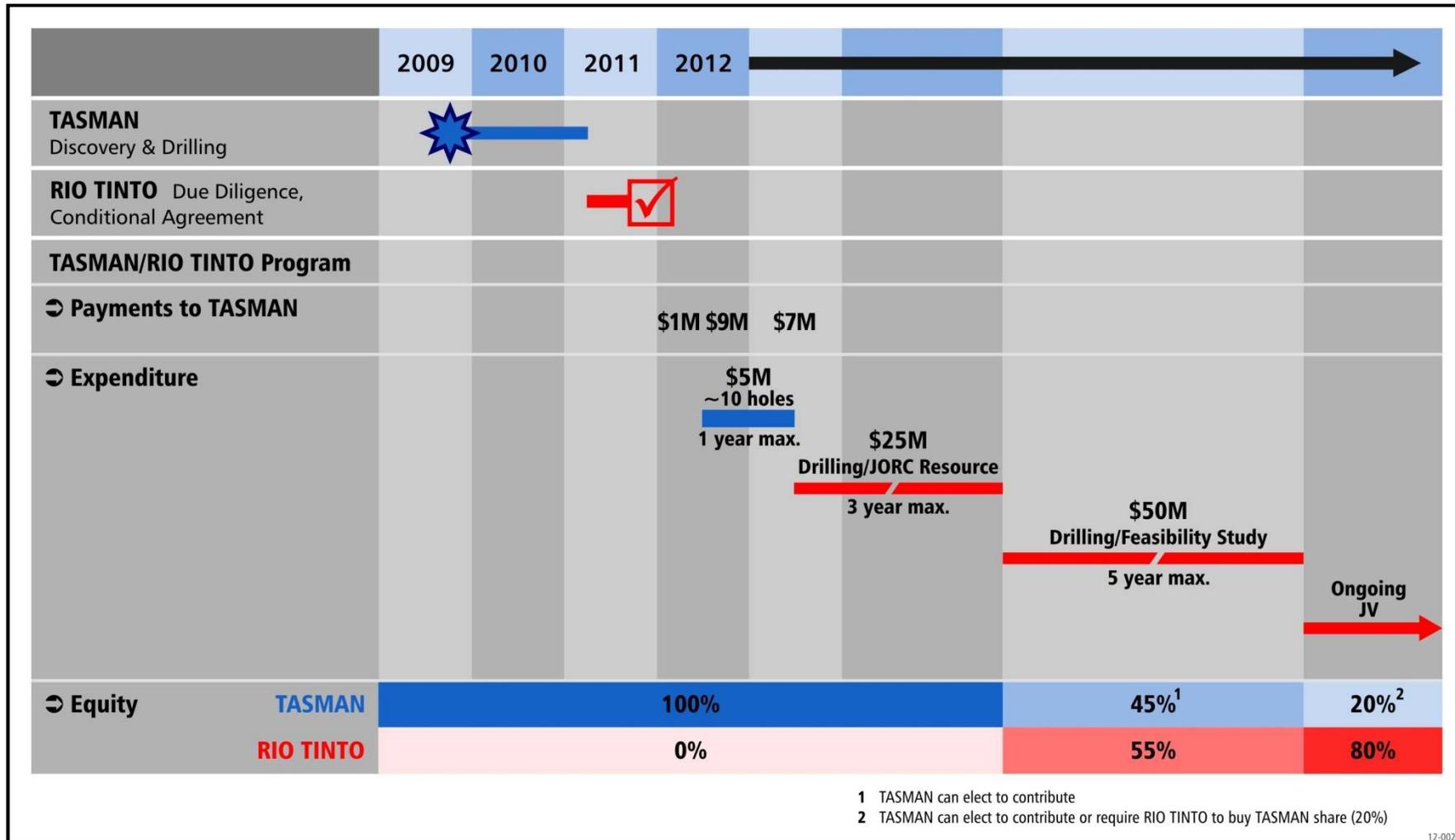




Vulcan Project Uranium Distribution (maximum assays)



Vulcan Project: Time Line





Competent Person's Statement

The information in this presentation that relates to Exploration Results and Activities is based on information compiled by Robert Smith and Michael Glasson who are Members of the Australian Institute of Geoscientists.

Robert Smith and Michael Glasson are full-time employees of the Company. Robert Smith and Michael Glasson have sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which they are undertaking to qualify as Competent Persons as defined in the 2004 Edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves".

Robert Smith and Michael Glasson consent to the inclusion in the report of the matters based on their information in the form and context in which it appears.



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