

Jericho Copper-Gold Discovery: What Lurks Beneath the Deep Blue Sea



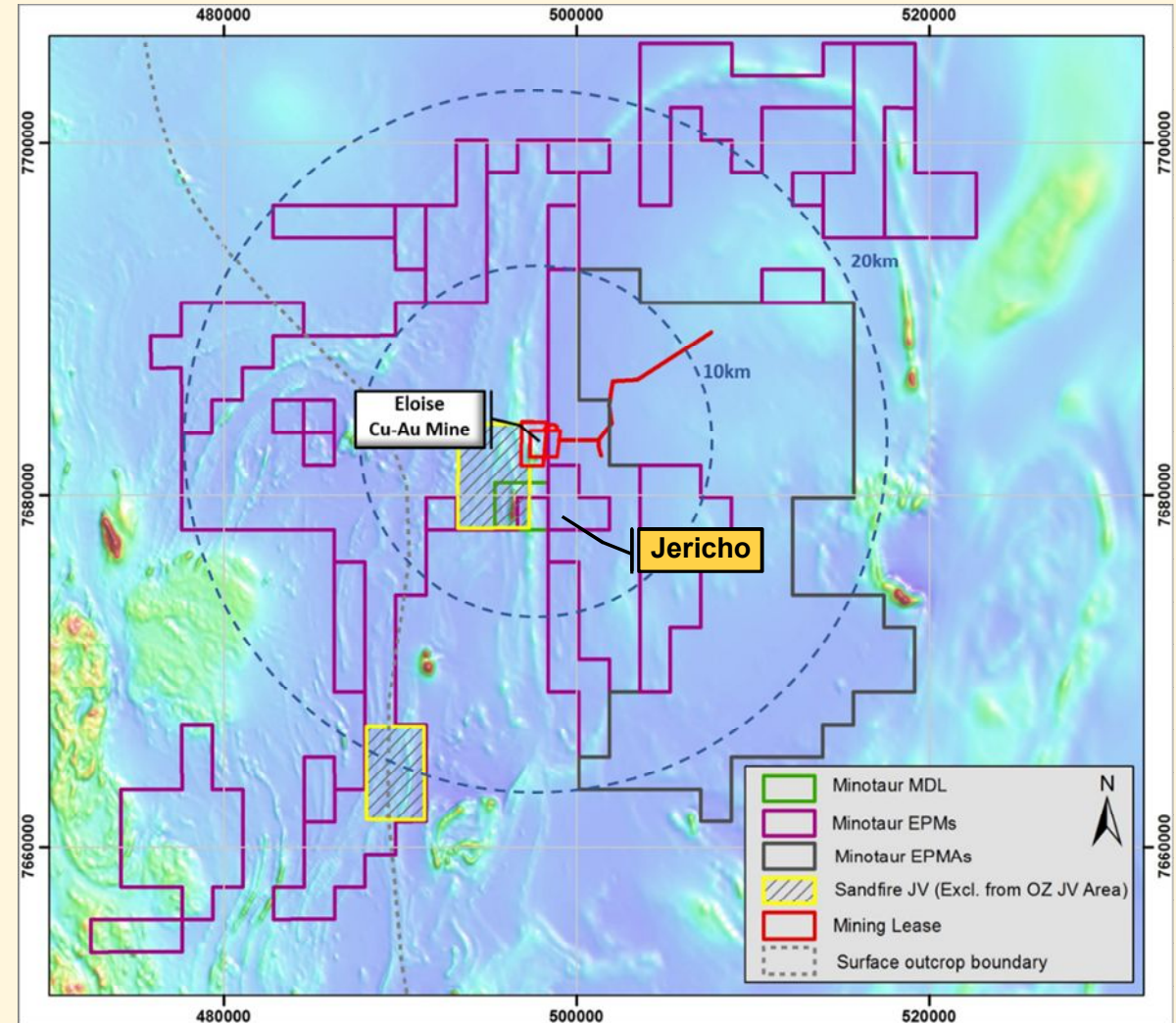
GSQ Technical Workshop
20-21 March 2019

Eloise JV

Minotaur – OZ Minerals



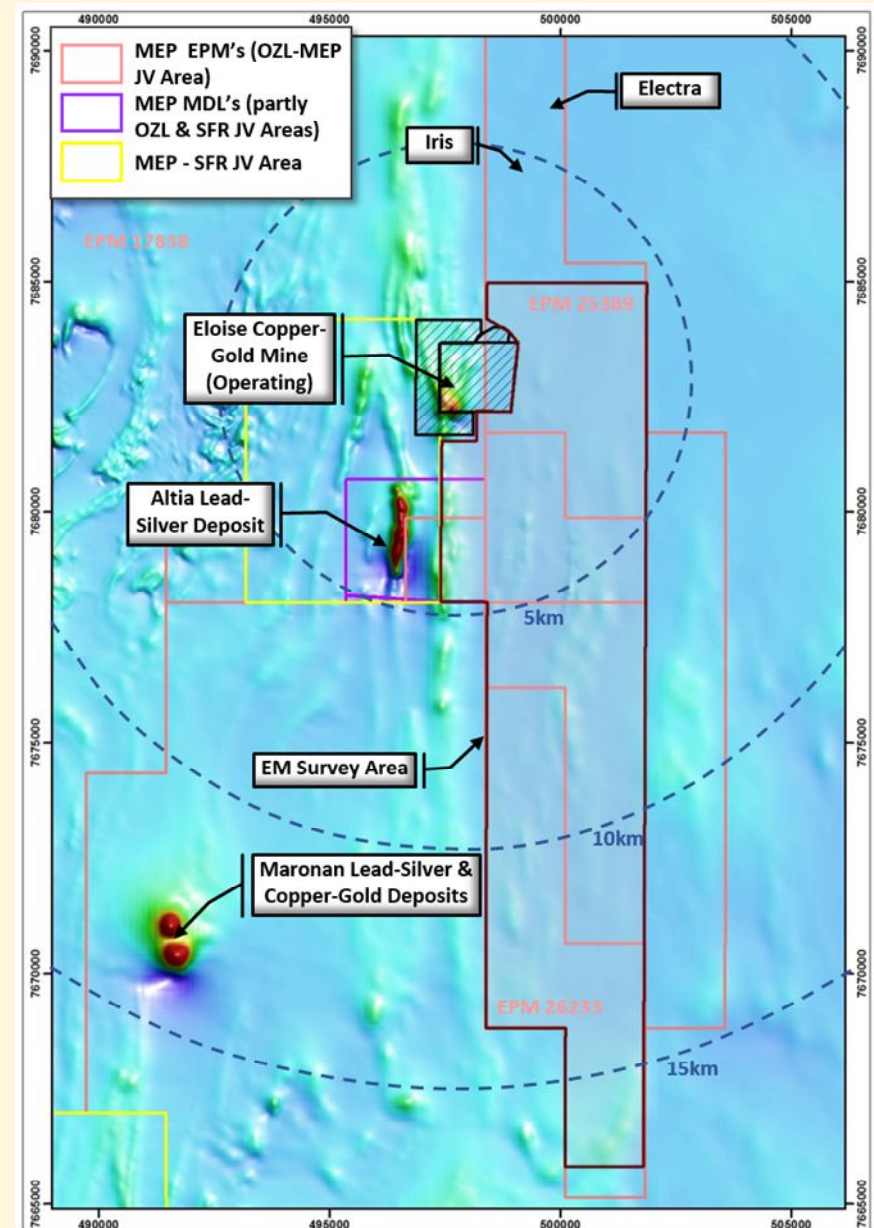
- Eloise project initially acquired by Minotaur in late 2013
- Project area centred around the Eloise mine around 60km SE of Cloncurry
- OZ Minerals (OZL) JV commenced early 2016
- OZL earned 51% by spending \$5M (March 2018)
- OZL elected to earn 70% by spending additional \$5M (70% equity position imminent)
- Minotaur are Manager and Operator



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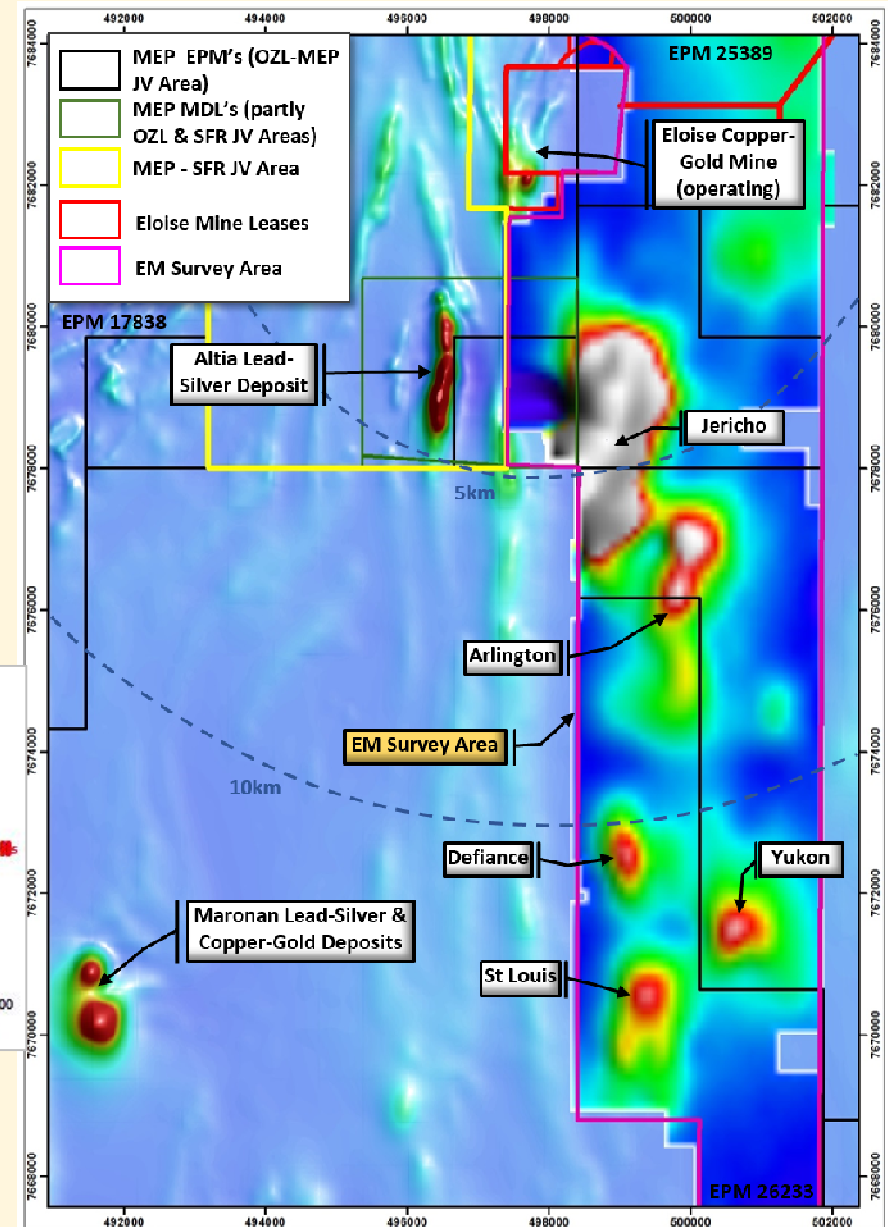
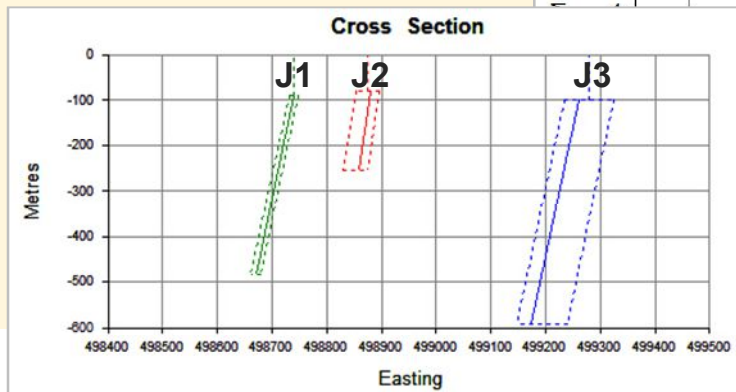
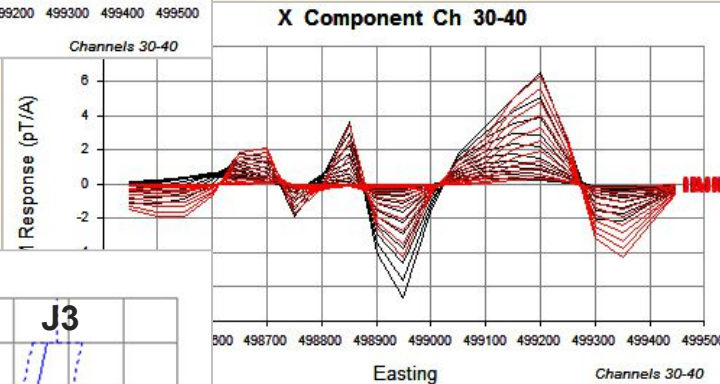
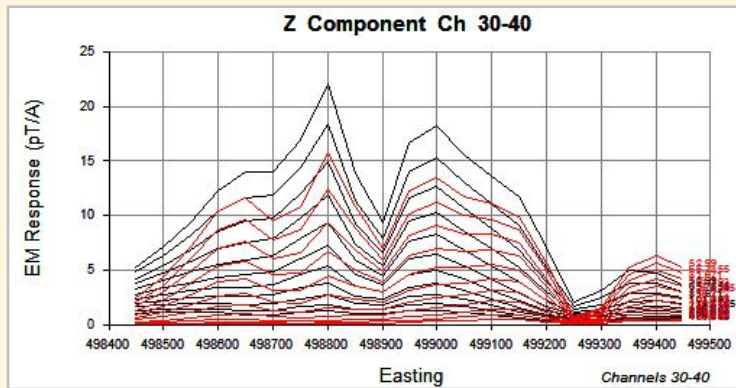
Bobbing around in a sea of blue....

- A large SQUID EM survey commenced in 2016 in covered areas with no magnetic response
- Iron Sulphide Copper Gold (ISCG) style mineralisation discovered at Iris and Electric when testing EM conductors
- Concept was working so EM surveys expanded in 2017 over newly acquired EPM
- 99% of new survey area under cover
 - depth of cover 30-120m
- Survey covered area ~17km x 3.5km
- 86 line km of data collected
- Survey cost ~\$200K



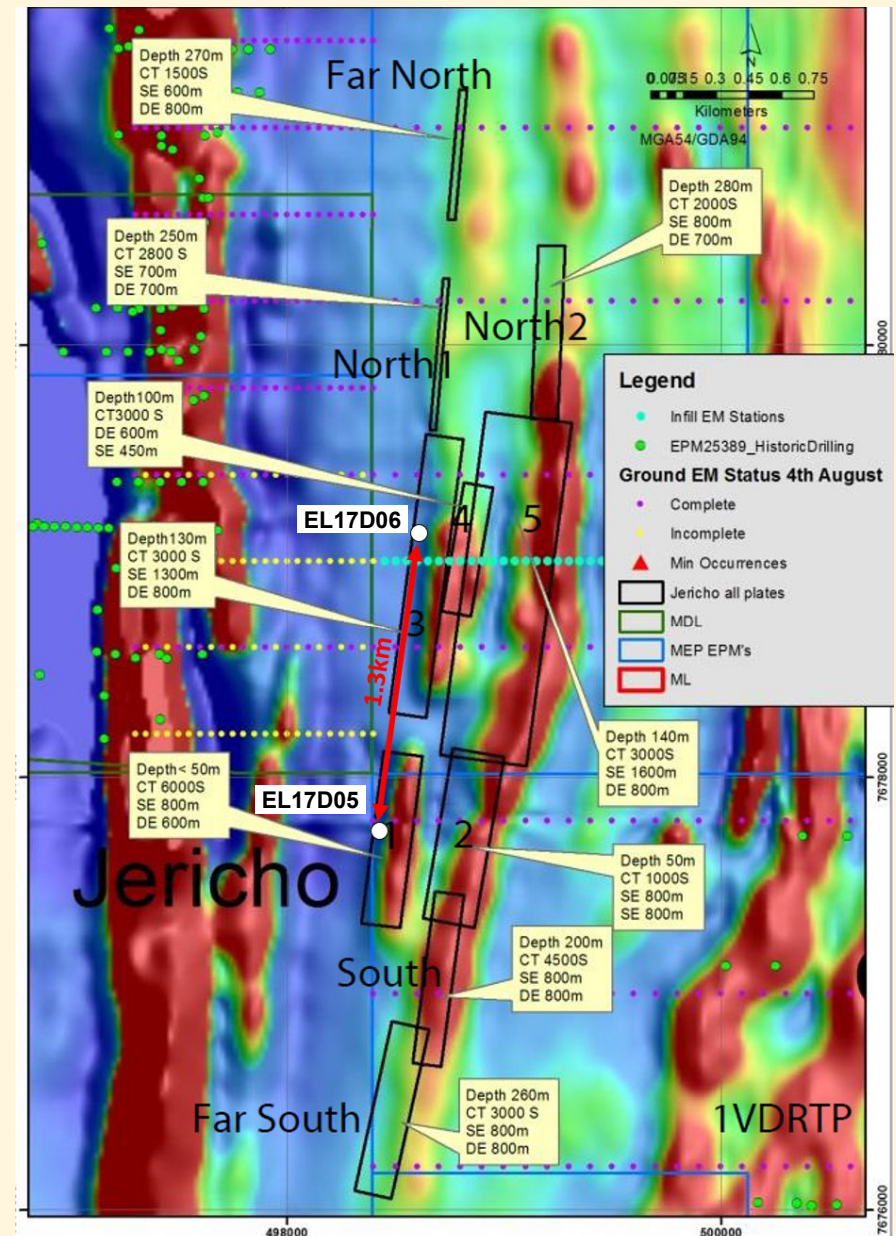
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- Numerous basement conductors defined
- Largest conductor was Jericho measuring about 4km long with modelled conductance 1000-6000S



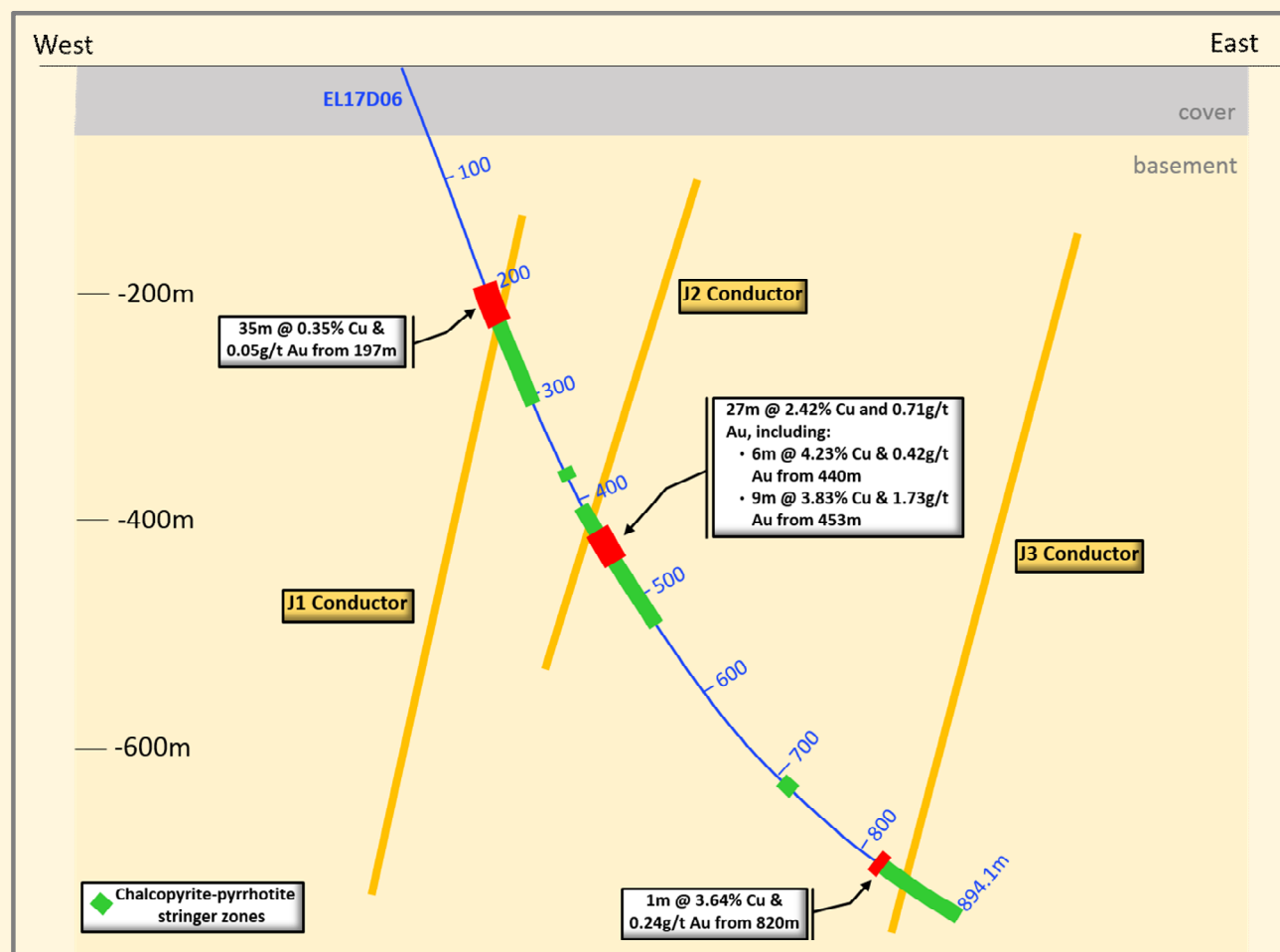
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- Jericho has three main conductive zones, J1, J2, J3
- Modelled conductance 1000-6000S
- Plate models all have significant depth extent
- Each zone broadly coincident with linear “magnetic” zones
- NOTE – the colour stretch on the magnetic image is significant; the Jericho zones are only 30-60nT**
- Historic drill holes are green dots (no previous drilling at Jericho)
- Initial 2-hole drill test, 1.3km apart, to determine source of conductors



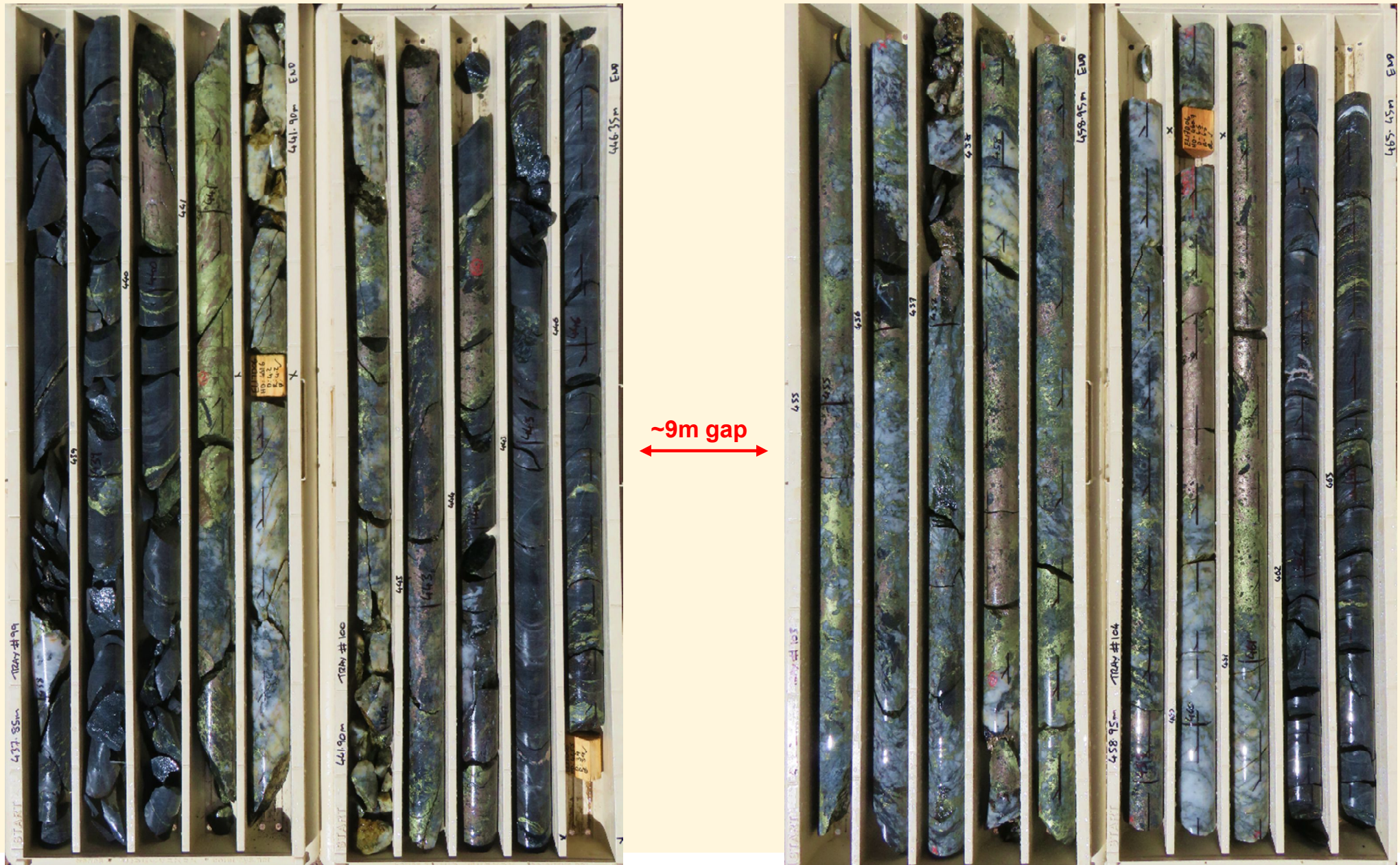
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- The second hole, the “Discovery Hole EL17D06” intersected strong Cu-Au mineralisation in semi-massive sulphide in ‘J2’ position
- Significant sulphide also intersected in ‘J1’ and J3’
- J1: 35m @ 0.35% Cu & 0.05g/t Au with significant pyrrhotite
- J2: 27m @ 2.42% Cu, 0.71g/t Au in semi-massive pyrrhotite
- J3: mostly disseminated-stringer pyrrhotite with only minor Cu
- First hole, EL17D05, intersected po-cpy over ~30m at J1



Original cross-section from ASX release 03 November 2017

Jericho Copper-Gold Discovery



EL17D06: 437.85-465.45m

Jericho Copper-Gold Discovery

- Discovery hole EL17D06 prompted follow-up drilling
- 6 additional holes drilled in 300m zone in central portion of Jericho
- Highly encouraging Cu-Au intersected on both J1 and J2 conductors
- J3 mostly pyrrhotite
- **2017 field season ended.....what did we know at this point in time?**

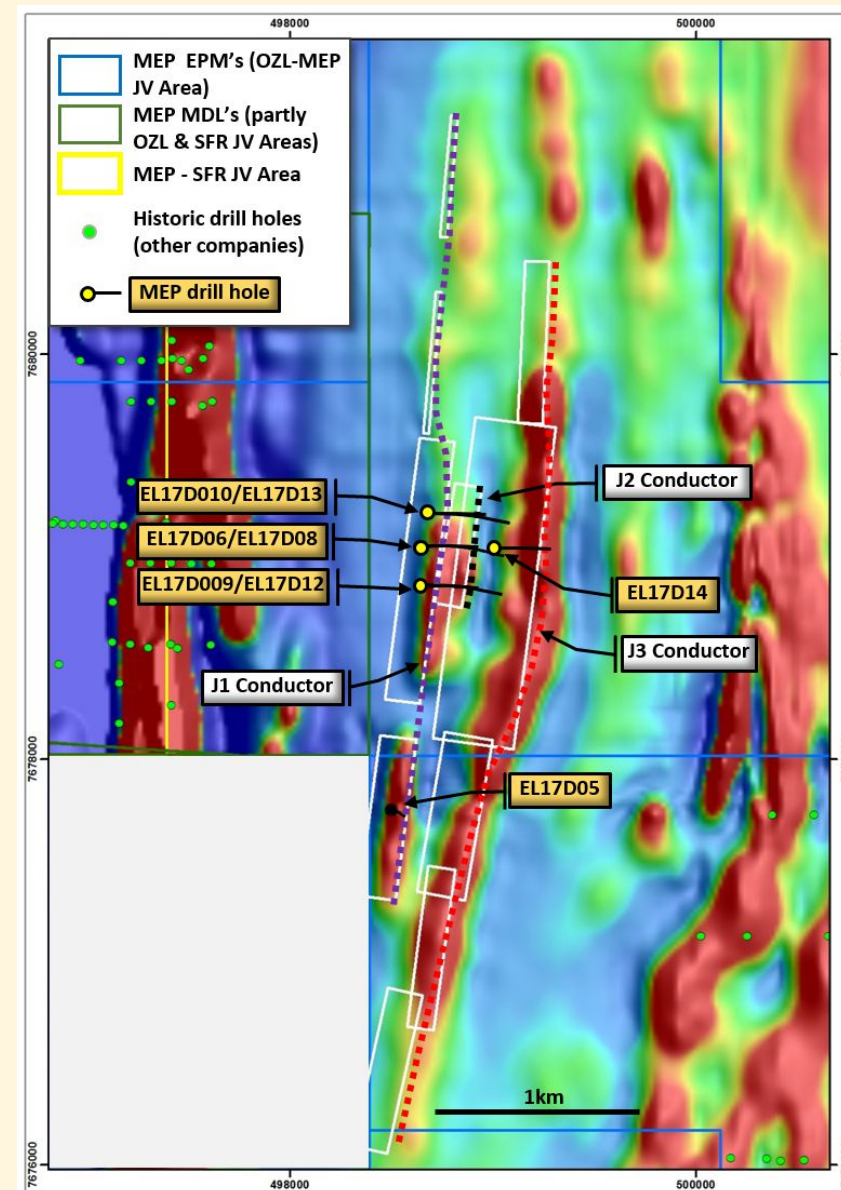
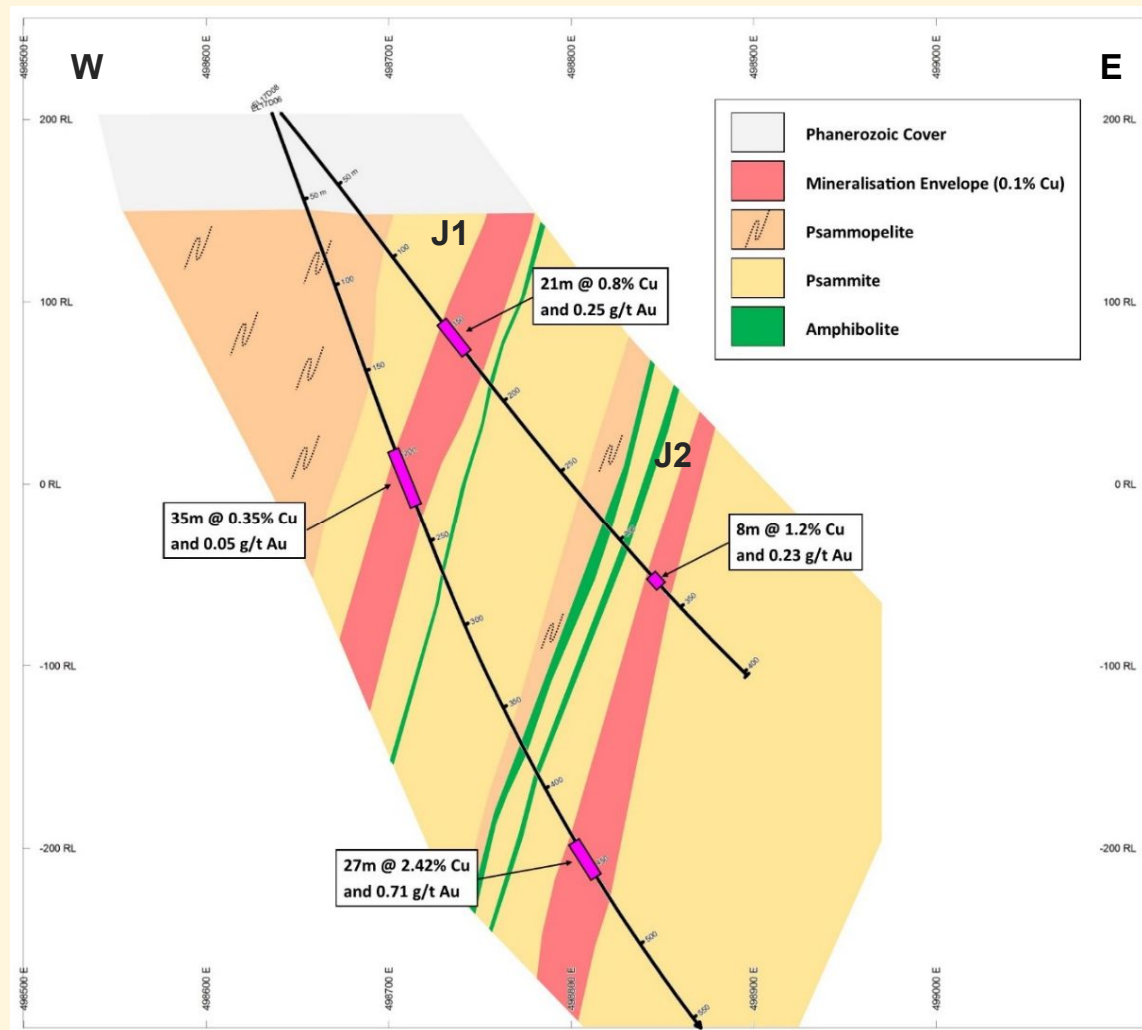


Image from ASX release 11 December 2017

Jericho Copper-Gold Discovery

What we knew at end of 2017

- Mineralisation located in discrete, biotite-rich shear zones (J1 and J2)
- Shear zones dip 70-75° west
- Lots of sulphide present (po-cpy)
- A conductive zone 4km long with only 8 holes



Jericho Copper-Gold Discovery



1 year later...

- 38 holes now complete for total of 14,860m
- Results validate Jericho as significant copper discovery
- J1 zone mineralised along **3.7km** of strike
 - 2km of the structure only lightly drilled
- J2 zone mineralised along **3km** of strike
 - 1.5km of the structure only very lightly drilled
- Closer spaced drilling in central J1 producing coherent zones of +2% Cu
 - EL18D02: 17m @ 2.3% Cu, 0.5g/t Au
 - EL18D18: 17m @ 2.39% Cu, 0.58g/t Au
 - EL18D23: 11m @ 2.05% Cu, 0.41g/t Au
 - EL18D24: 12m @ 2.23% Cu, 0.34g/t Au
 - EL18D29: 12m @ 2.39% Cu, 0.42g/t Au
 - EL18D30: 11.3m @ 3.43% Cu, 0.44g/t Au

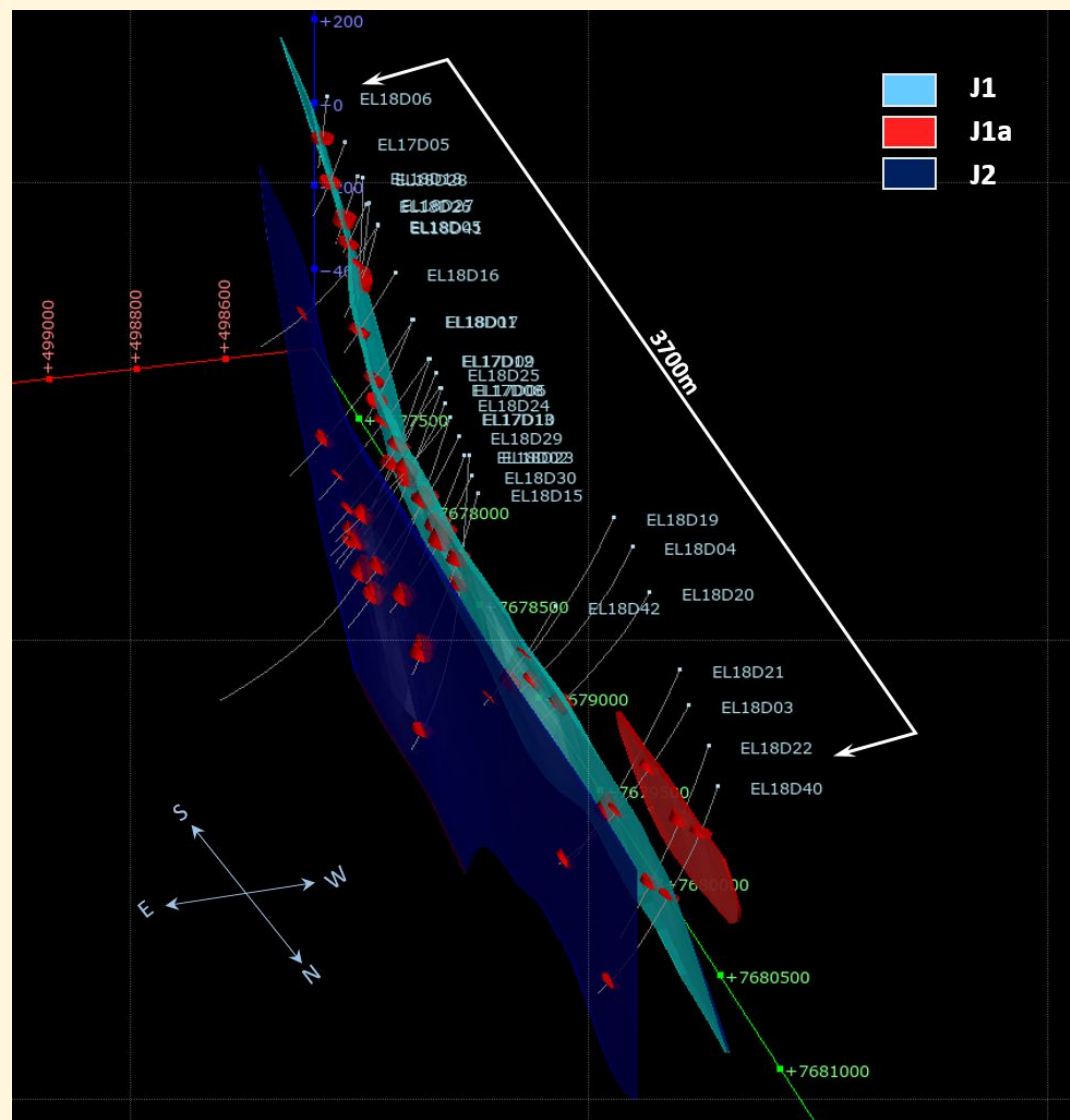
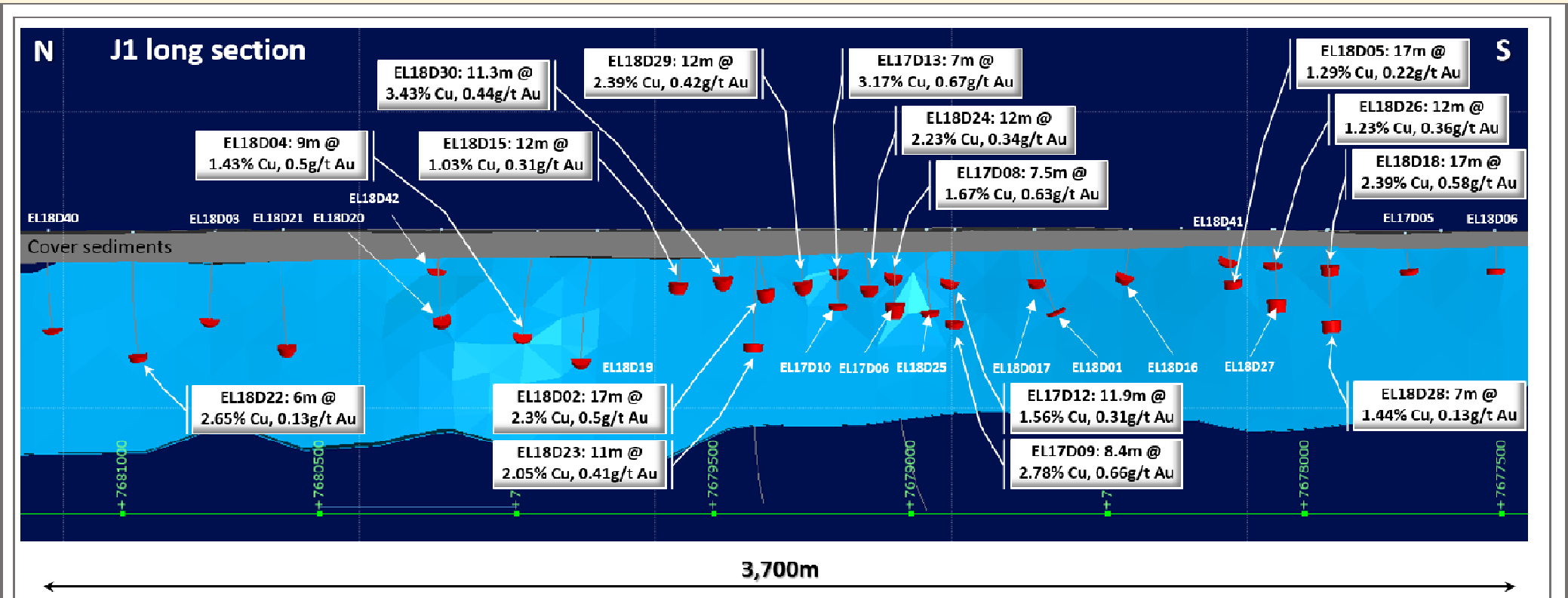


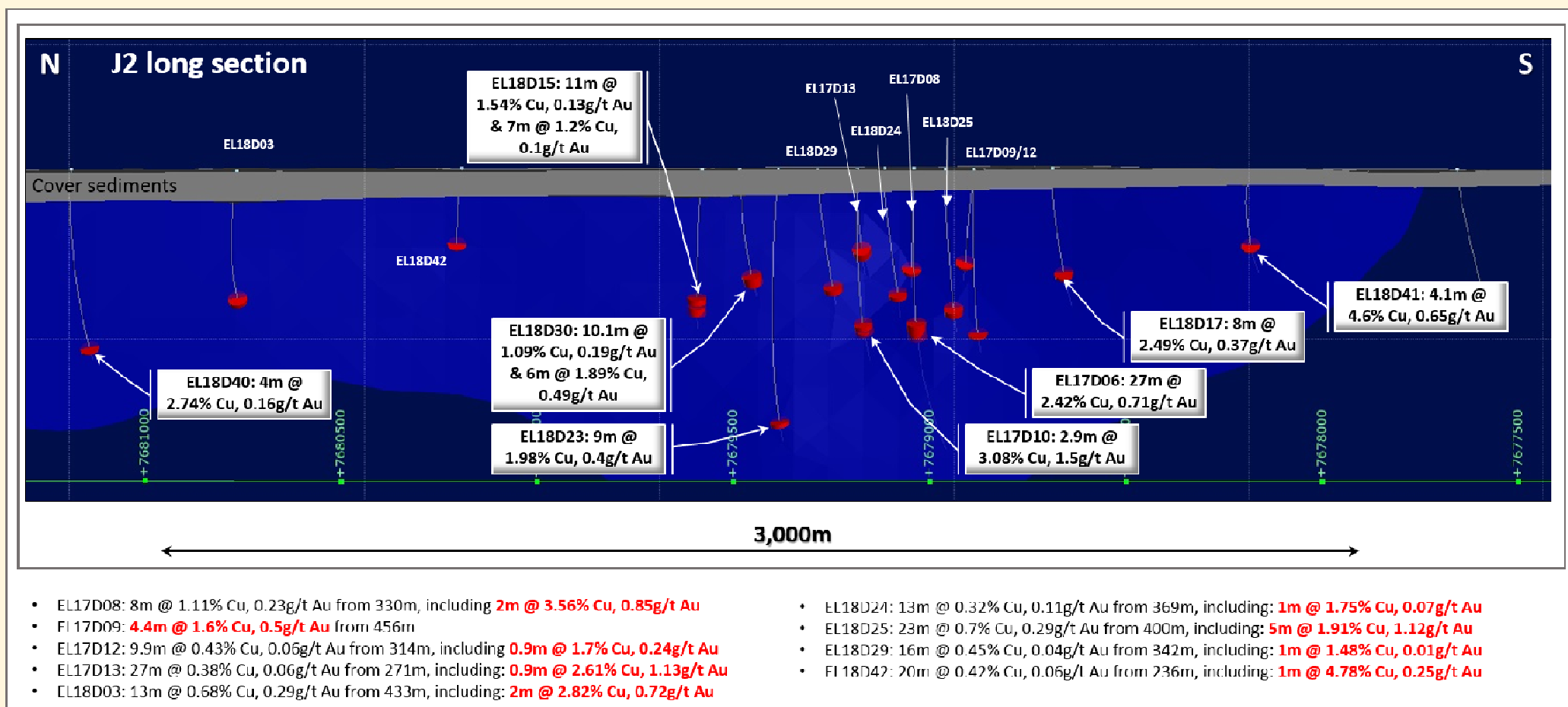
Image from ASX release 18 December 2018

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- EL17D05: 28m @ 0.41% Cu, 0.19g/t Au from 97m, including: **1m @ 2.38% Cu, 0.36g/t Au**
- EL17D06: 35m @ 0.35% Cu, 0.05g/t Au from 197m, including: **1m @ 1.32% Cu, 0.22g/t Au**
- EL17D10: 44m @ 0.3% Cu, 0.06g/t Au from 186m, including: **0.7m @ 4.1% Cu, 1.17g/t Au**
- EL18D01: 24m @ 0.26% Cu, 0.03g/t Au from 206m, including: **1m @ 2.51% Cu, 0.19g/t Au**
- EL18D03: **6m @ 1.02% Cu, 0.28g/t Au** from 278m
- EL18D06: 11m @ 0.85% Cu, 0.13g/t Au from 97m, including: **1m @ 2% Cu, 0.5g/t Au**
- EL18D16: 16m @ 0.77% Cu, 0.19g/t Au from 141m, including: **3m @ 1.51% Cu, 0.22g/t Au** and **1m @ 4.93% Cu, 1.23g/t Au**
- EL18D17: 22m @ 0.41% Cu, 0.11g/t Au from 154m, including: **1m @ 1.3% Cu, 0.43g/t Au**
- EL18D19: 46m @ 0.35% Cu, 0.11g/t Au from 408m, including: **3m @ 1.39% Cu, 0.29g/t Au**
- EL18D20: 30m @ 0.42% Cu, 0.11g/t Au from 298m, including: **1m @ 1.43% Cu, 0.03g/t Au** and **2m @ 1.93% Cu, 0.86g/t Au**
- EL18D21: 20m @ 0.14% Cu, 0.07g/t Au from 327m
- EL18D25: 17m @ 0.34% Cu, 0.04g/t Au from 190m & 10m @ 0.41% Cu, 0.10g/t Au from 222m
- EL18D27: 28m @ 0.37% Cu, 0.06g/t Au from 185m, including: **2.8m @ 1.25% Cu, 0.20g/t Au**
- EL18D40: **1m @ 1.91% Cu, 2.22g/t Au** from 2/3m
- EL18D41: **3m @ 1.32% Cu, 0.17g/t Au** from 90m
- EL18D42: **1m @ 1.66% Cu, 0.27g/t Au** from 124m

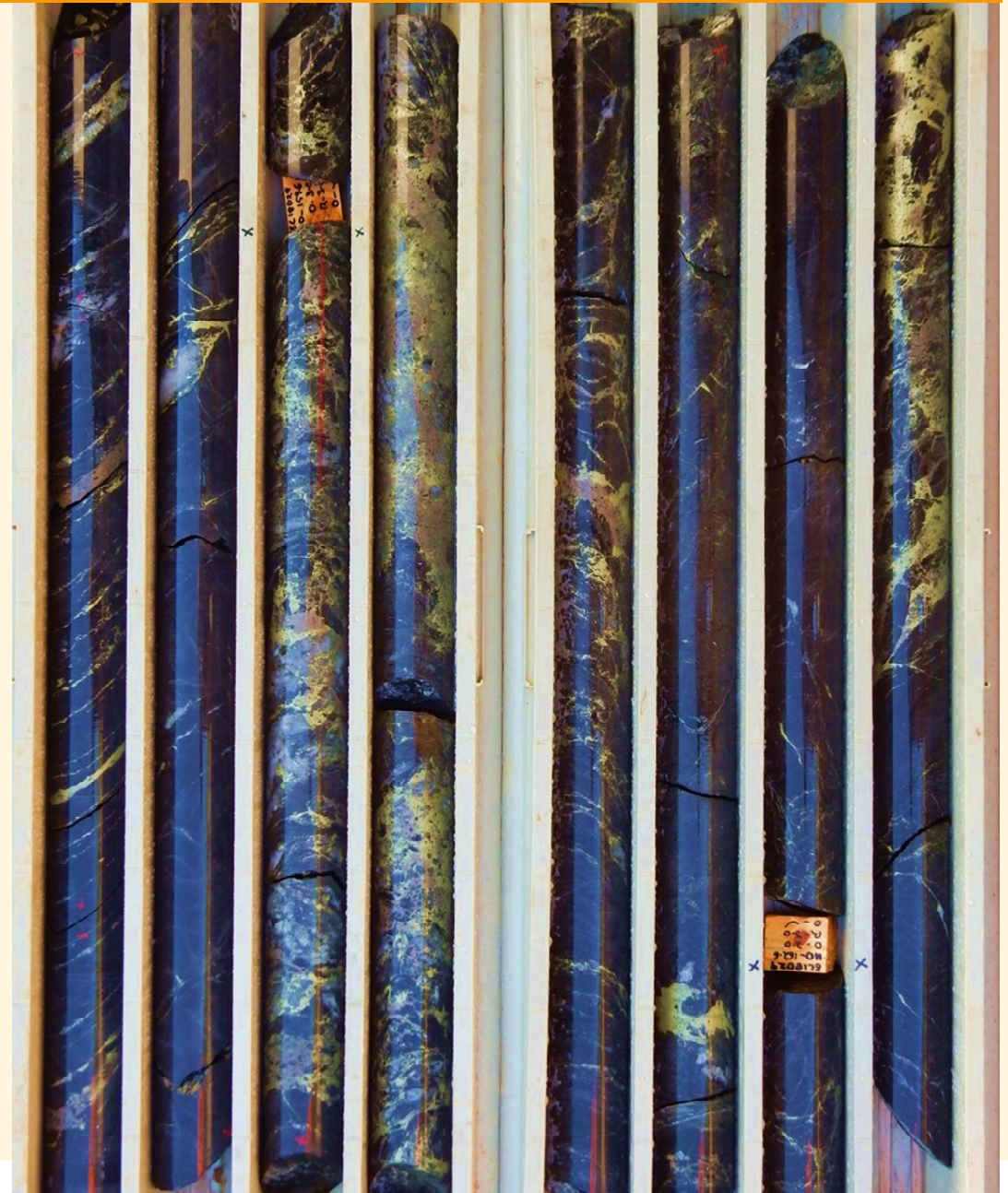
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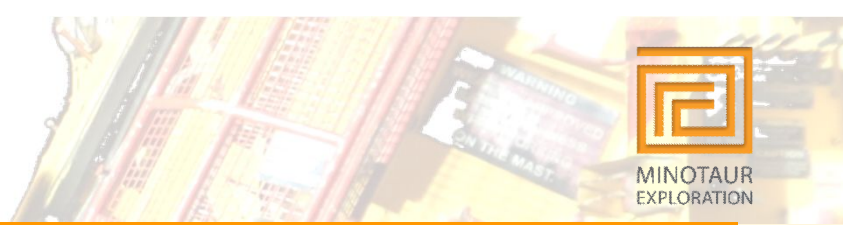
Jericho Copper-Gold: Geology

- Sulphide typically manifest as veins, breccia and replacement
- Simple sulphide mineralogy – almost exclusively cpy-po (minor py-apy)
- Host rock is strongly foliated psammite
- Best mineralisation typically hosted in/around quartz veins
- Alteration very simple – mostly biotite
- **Massive sulphide zones nearly always deformed**

From hole
EL18D29
J1 zone

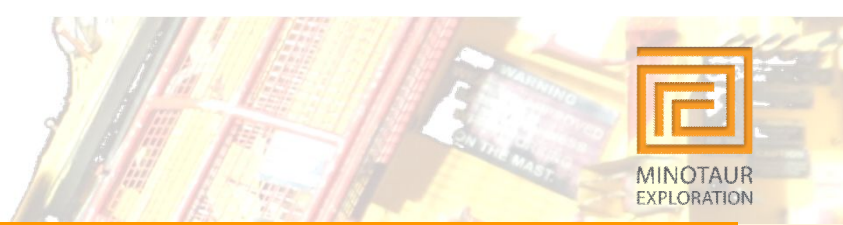


Jericho Copper-Gold: Structure

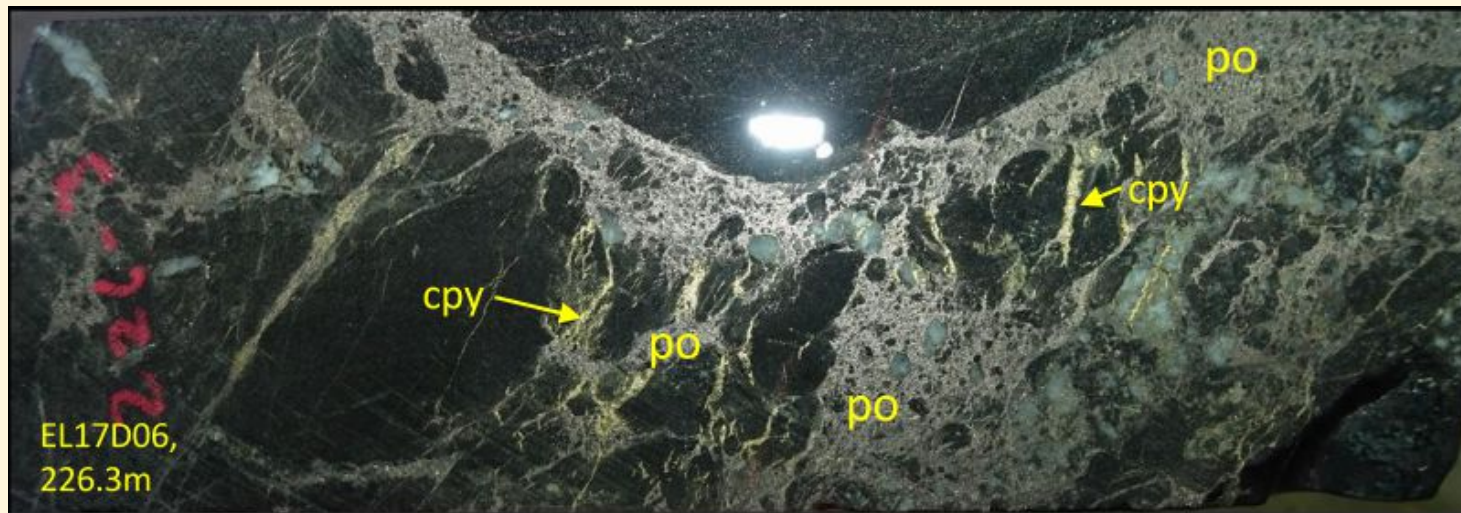


- Focused ductile strain produced discrete shear zones – J1 and J2
- These shear zones, in turn, controlled the deposition and orientation of quartz veining.
- Quartz veins pre-date sulphides and have undergone intense deformation that resulted in attenuation, dislocation, segmentation, boundinage and shear-related folding
- The geometries in the shears hosting mineralisation are consistent and overwhelmingly have west-side-up shear sense
- Sulphide has been focused into low mean stress sites in/adjacent the precursor quartz veins
- **Consistent overprinting relationships indicate sulphide mineralisation was deposited syn ductile deformation but subsequent to emplacement of the quartz veins.**
- Most lineations have low-moderate plunges to the north that may mean mineralised shoots have similar orientations (this concept yet to be tested by drilling)

Jericho Copper-Gold: Mineralisation Textures



Extension fractures in boudinaged quartz vein

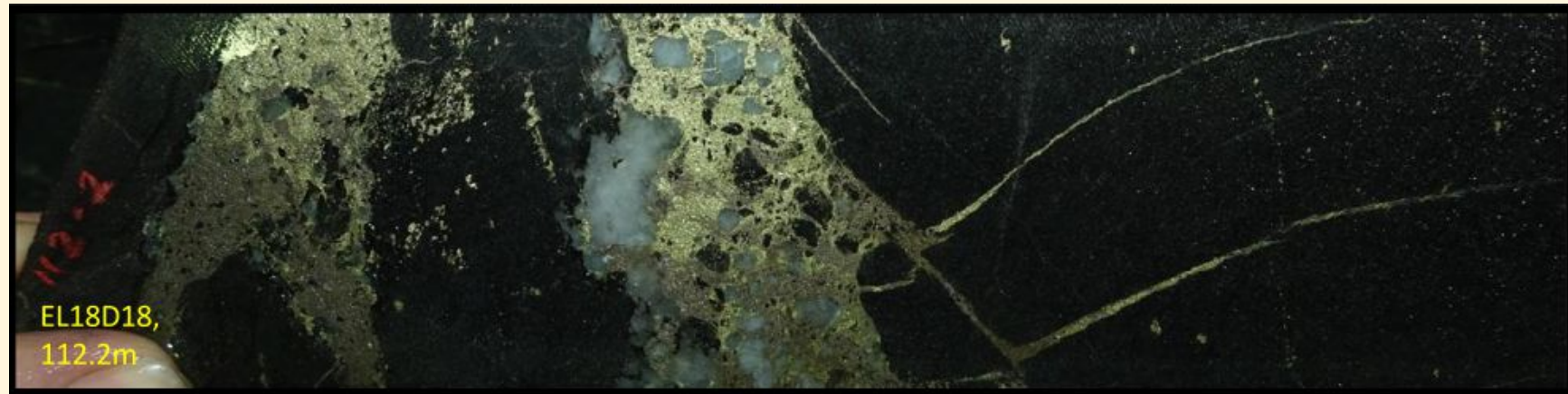


Extension fractures: textures suggest evolution from po to cpy

Jericho Copper-Gold: Mineralisation Textures



Extension fracture stockwork in zone of strong qtz veining

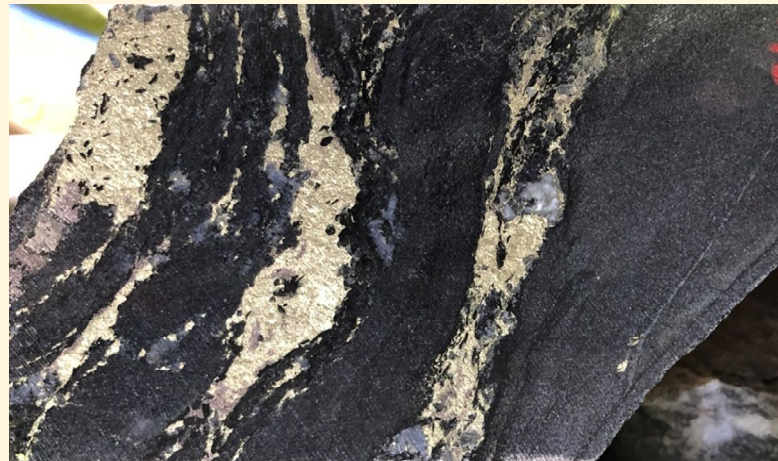
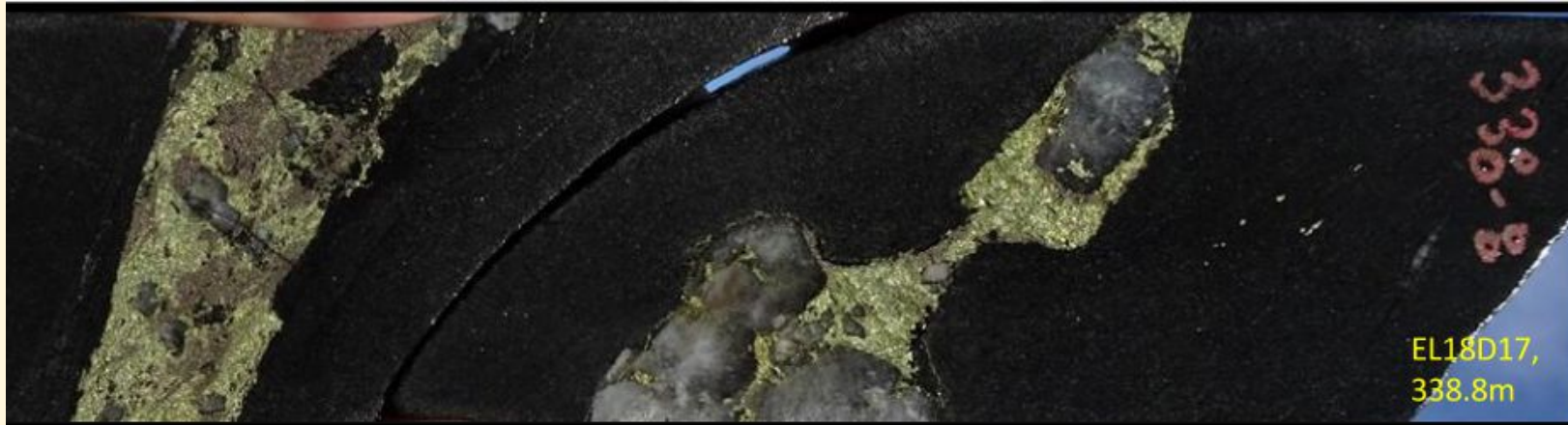


Dense mosaic of sulphide in/replaced qtz with extension fractures that emanate into the country-rock. Note extension fracture fill began with po and terminated with cpy

Jericho Copper-Gold: Mineralisation Textures



Sulphide in qtz vein boudin neck

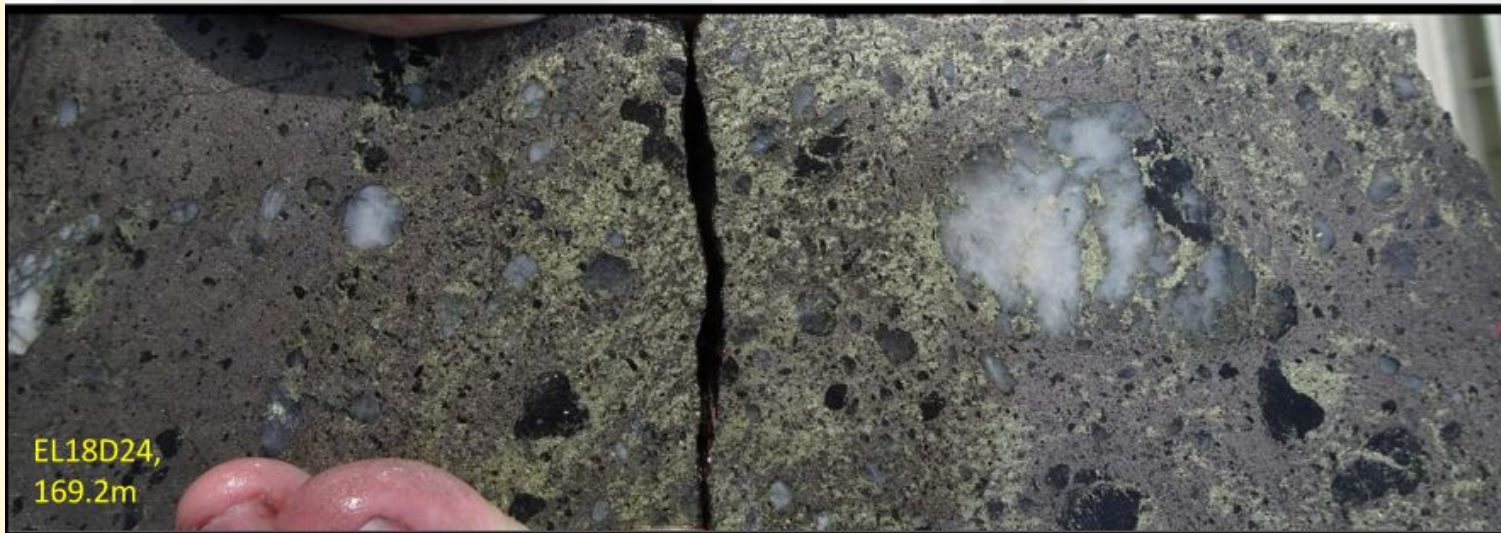


Boudinaged qtz veins and cpy-po veins

Jericho Copper-Gold: Mineralisation Textures



Well developed durchbewegung textures in deformed massive sulphide mineralisation



Jericho Copper-Gold: Mineralisation Textures



- Sulphide zone transitions from massive sulphide zone on right, which has been strongly deformed, into zone with less sulphide and more competent host rock that failed and developed extensional fractures

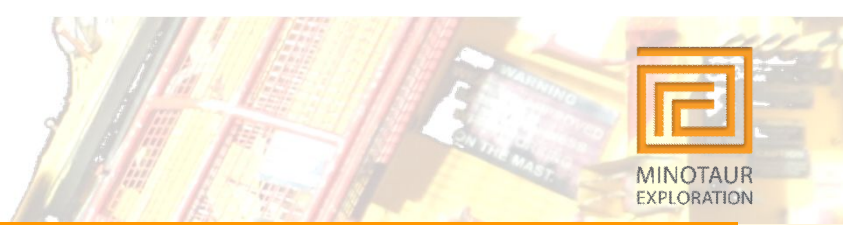
EL18D24 (J1)



Extensional fracture fill zone

Durchbewegung massive sulphide

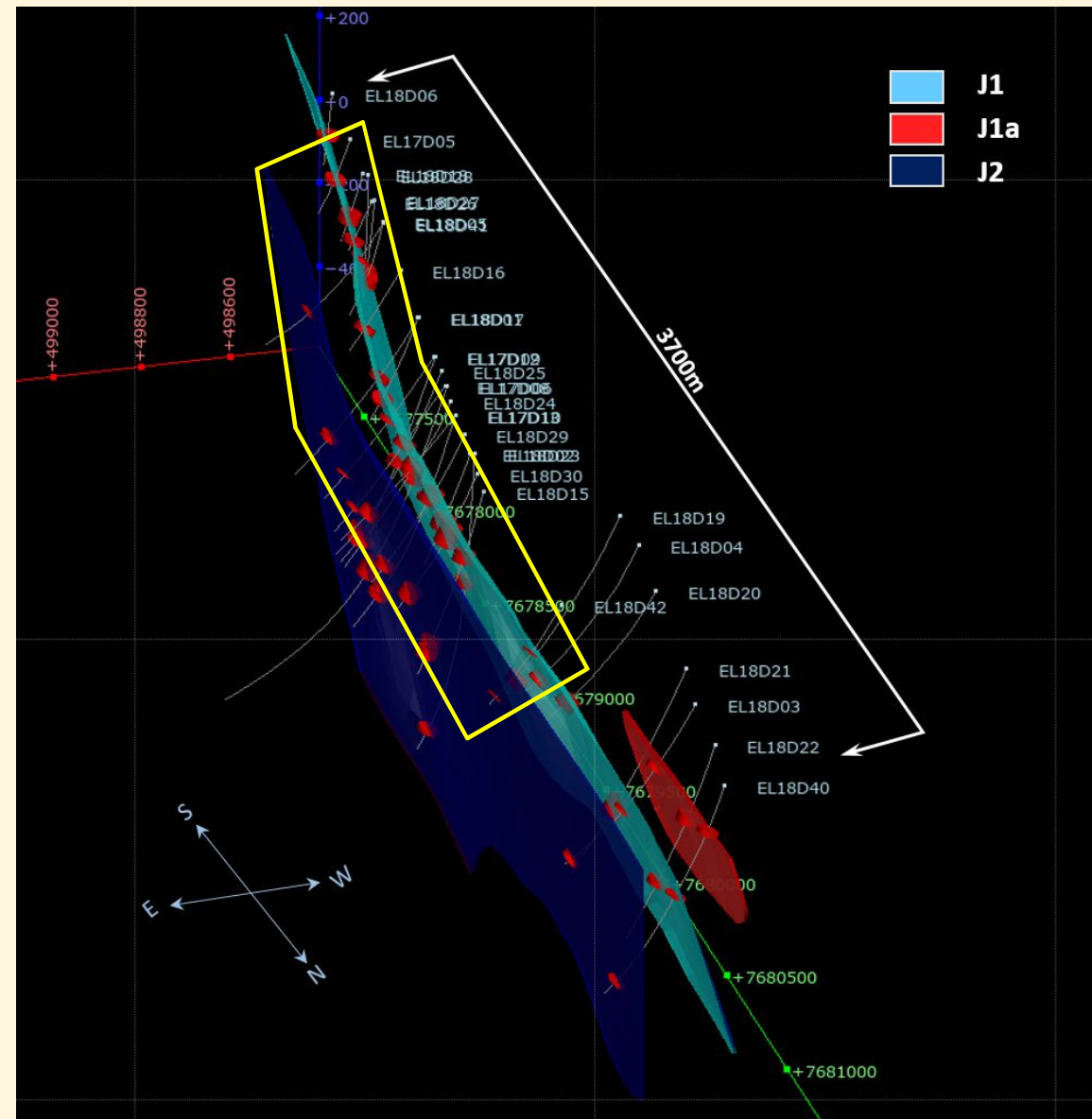
General Observations



- Structural study appears to firmly place mineralisation in an evolving syn- ductile deformation event
- Deformation fabrics at Jericho are penetrative, north-south striking and steeply dipping
- Orientation of fabric/shear zones at Jericho consistent with regional “D2”
- Literature littered with variable ages for D2, but lets put it in the range 1590-1565Ma
- Jericho mineralisation geochemistry appears identical to Eloise deposit, host rocks at both look identical, and sulphide mineral assemblages and textures very similar (and Eloise is only 3km away)
- Eloise dated at ~1530-1520Ma, oxygen-sulphur isotope values and high salinity fluid inclusions used to interpret mineralisation linked to magmatic fluid source (but not definitive) and thus implies link to WN event
- Perhaps the Jericho shear zones are ductile structures that were reactivated during D3 that utilised pre-existing D2 structures?

What is next?

- 21,000m drill program to commence in April
- Focus will be in central part of Jericho testing both J1 and J2
- 2 x rigs will be operating, combination of RC and DD



Thankyou



Explanatory statements

About the Eloise Joint Venture

OZ Minerals Ltd (ASX: OZL) may sole fund up to \$10 million over six years for which it will earn 70% beneficial interest in Minotaur's 'Eloise' tenements, 65km south-east of Cloncurry, Queensland. OZ Minerals' 70% interest is forecast to be achieved by early 2019, 3 years earlier than originally contemplated. Minotaur is manager and operator of the joint venture.

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