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# Borehole property measurement case history.

# Yeoval Copper Porphyry Deposit.

# Kimberley Diamonds Ltd

Thanks to: Rod Sainty of Kimberley Diamonds, formerly Goodrich Resources

Thanks to Steve Collins

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# This presentation will cover 3 points raised by the results of this survey.

## Why do DHIP?

1. The level of accuracy that can be achieved with the right equipment.

2. The need to correlate modelled surface data with accurate borehole data; and

   Examples - Offset Pole Dipole vs Dipole Dipole

   Gradient array and offset pole dipole.

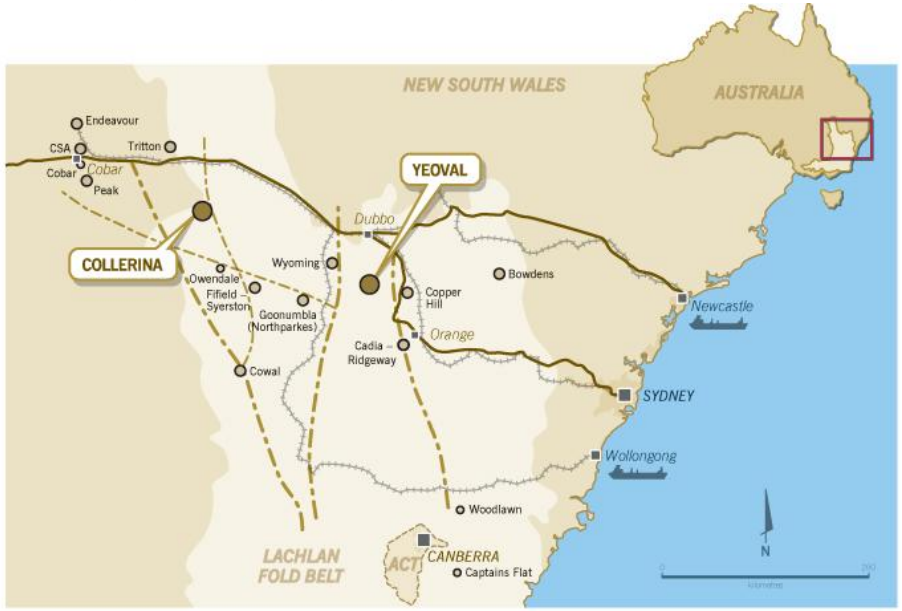
3. Poses considerations around the way the exploration industry is currently approaching exploration programs.

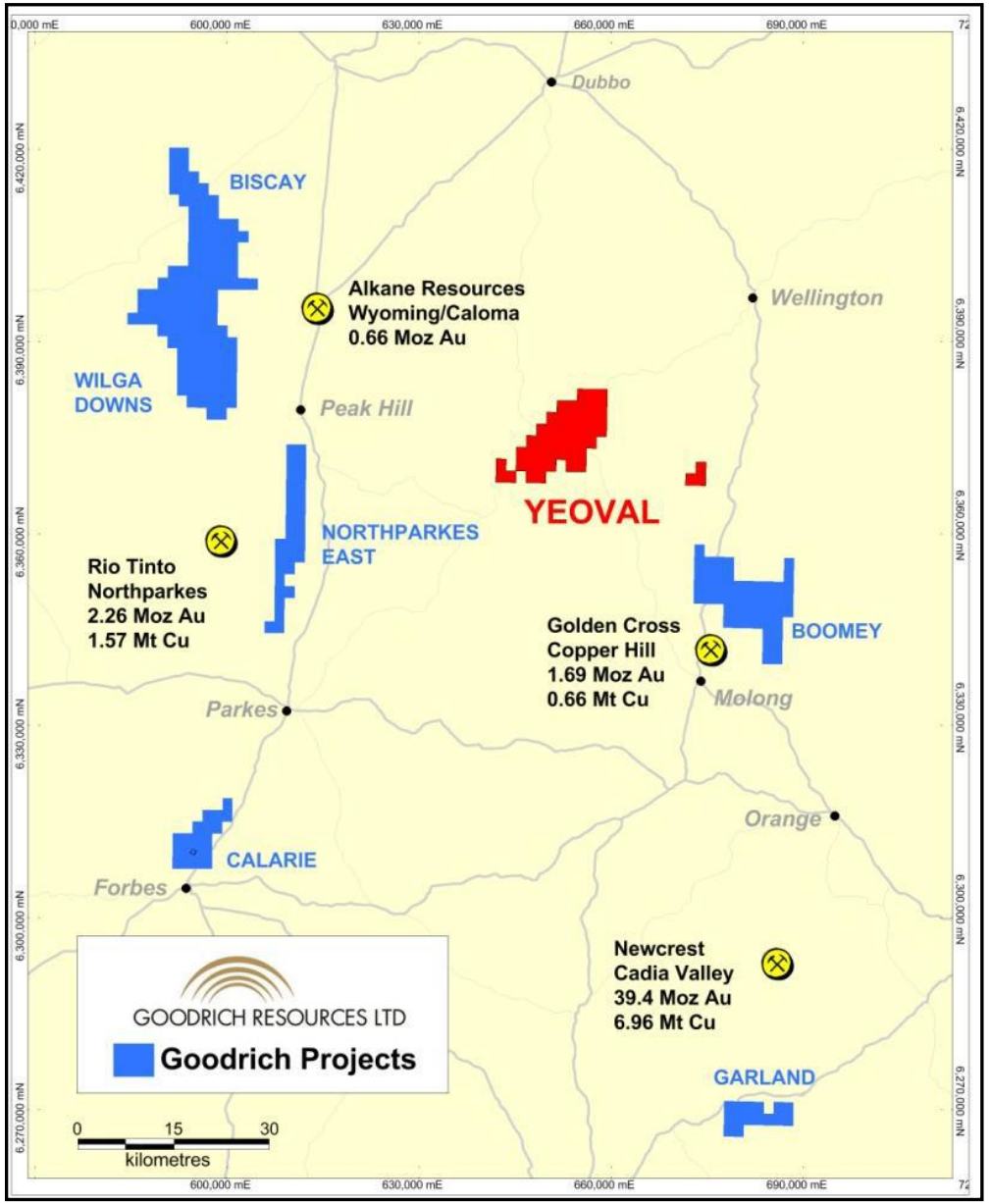
   Through the 90's in Australia the exploration was primarily being undertaken by mining companies.

# The Yeoval Copper Porphyry Deposit.

The Yeoval Copper Deposit is located in Central West NSW, Approximately 85km NW of Orange.

The Yeoval project area hosts the Yeoval Porphyry deposit which has an Inferred JORC Resource estimate of 12.9 million tonnes at 0.38% copper, 0.14 g/t gold.



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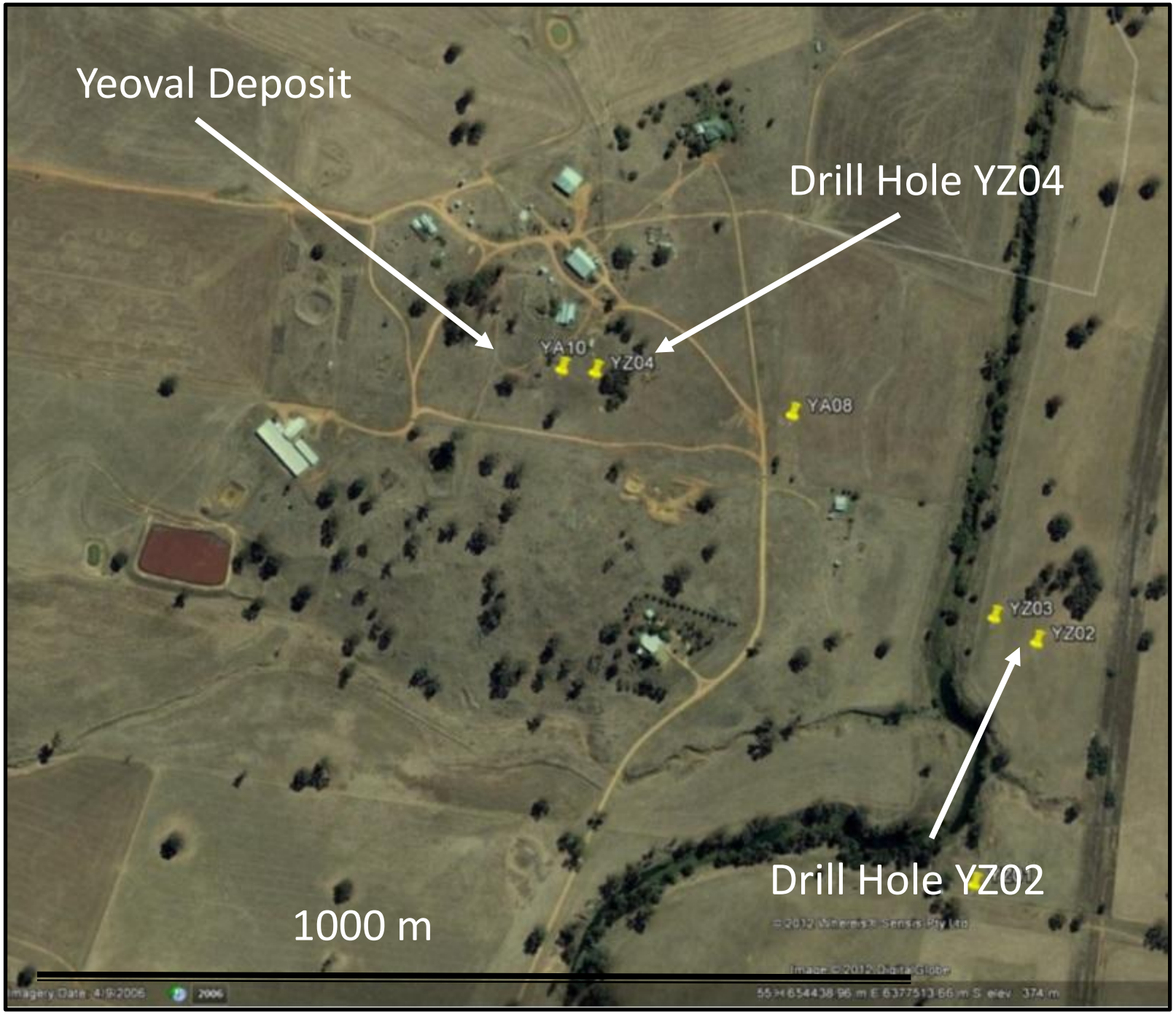
# Google Earth Image of Survey Area and Drill Collars

Flat open grazing land.

Cultural features to add to the complexity.

YZ02 was difficult t place due to the river and access.

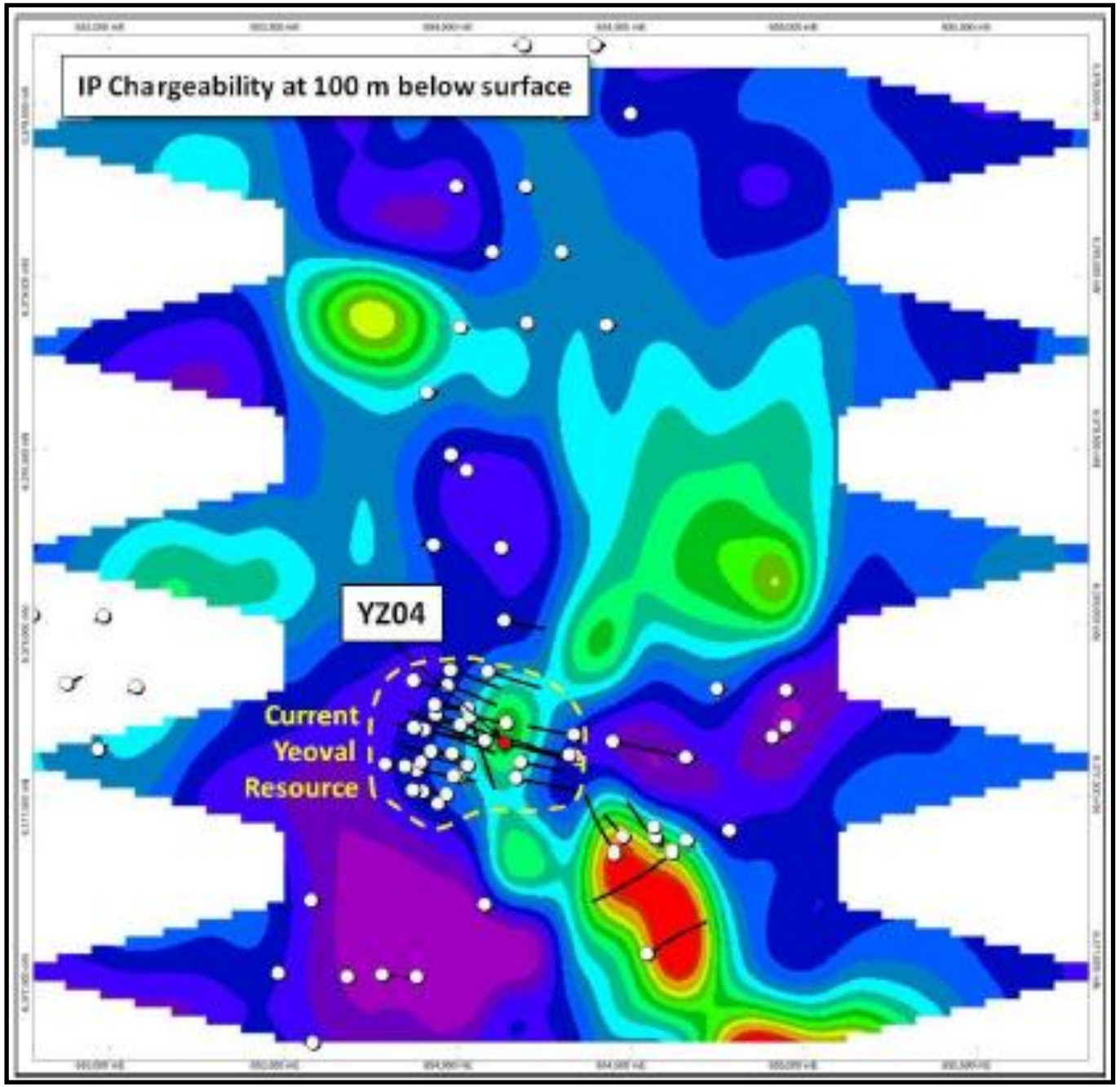


# Offset Pole Dipole IP Results.

The IP survey was a standard OPD array with 100m dipoles.

100m depth slice.

- Receiver lines 1600m long
- Transmitter lines 3200m long
- 200m line separation
- 32 channels collected simultaneously
- Completed an array a day

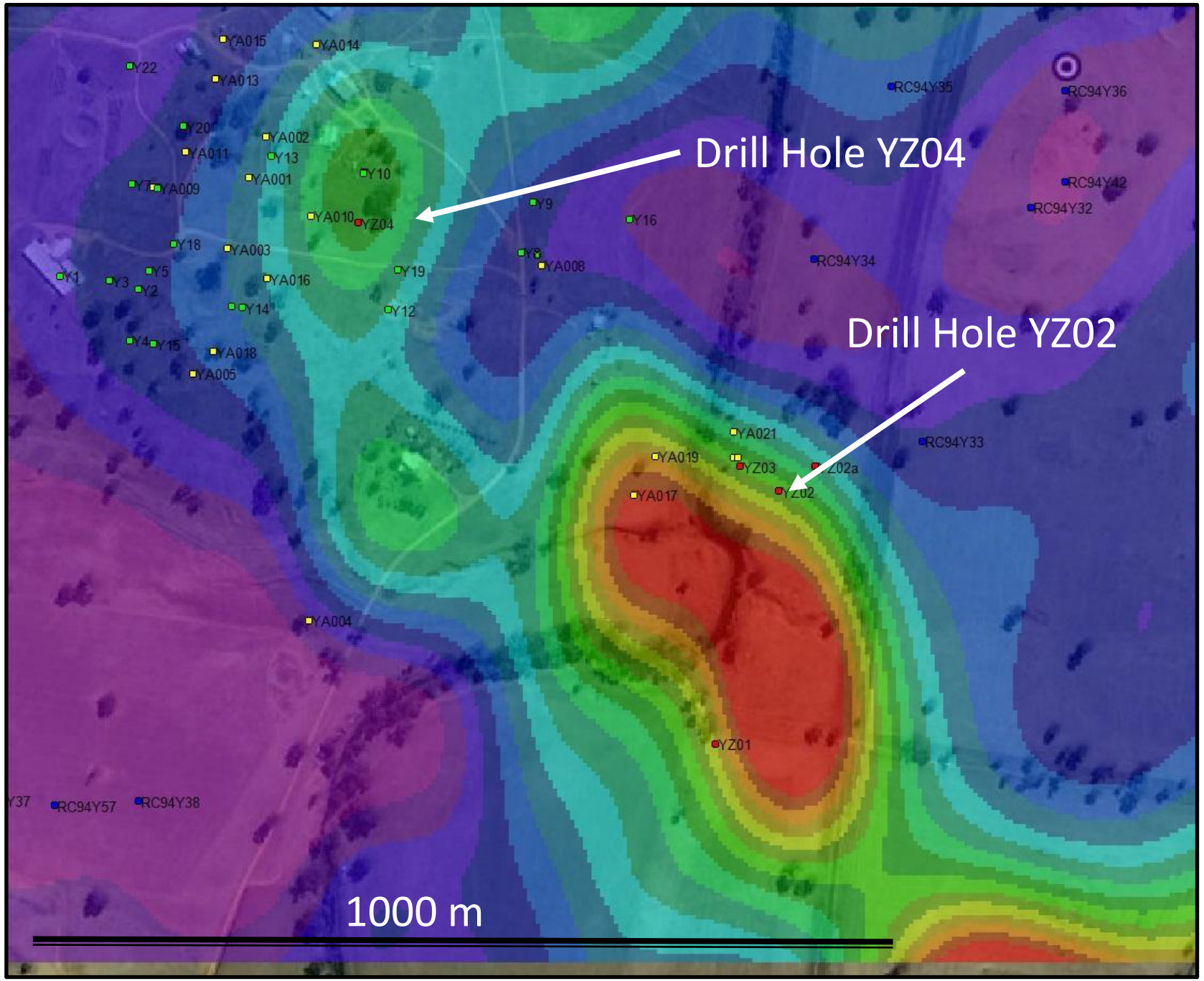


# Close Up of IP Data and Drill Collars.

The known Yeoval  Deposit shows up well in the model.

The survey highlights another more chargeable zone to the SE.

Hole YZ04 was drilled into the known deposit and YZ02 into new IP anomaly.



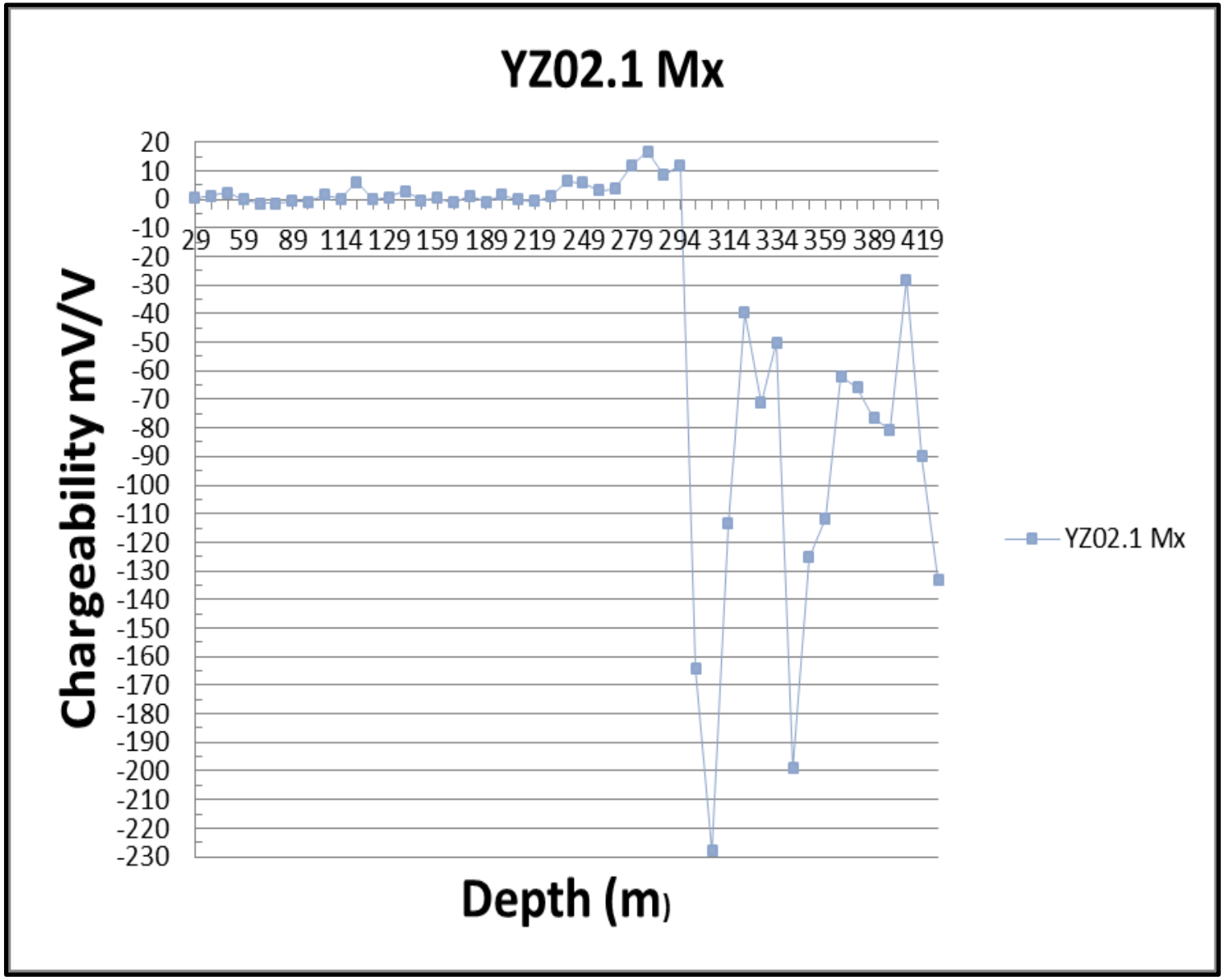
# Original Results – Drill Hole YZ02

Hole YZ02 was drilled into the SE IP anomaly.

The survey was run with a fairly traditional style of DHIP array.

New 4 x 25mm flex cabling (IP wire).

Plastic conduit with copper take outs for electrodes.



# Results of Hole YZ04

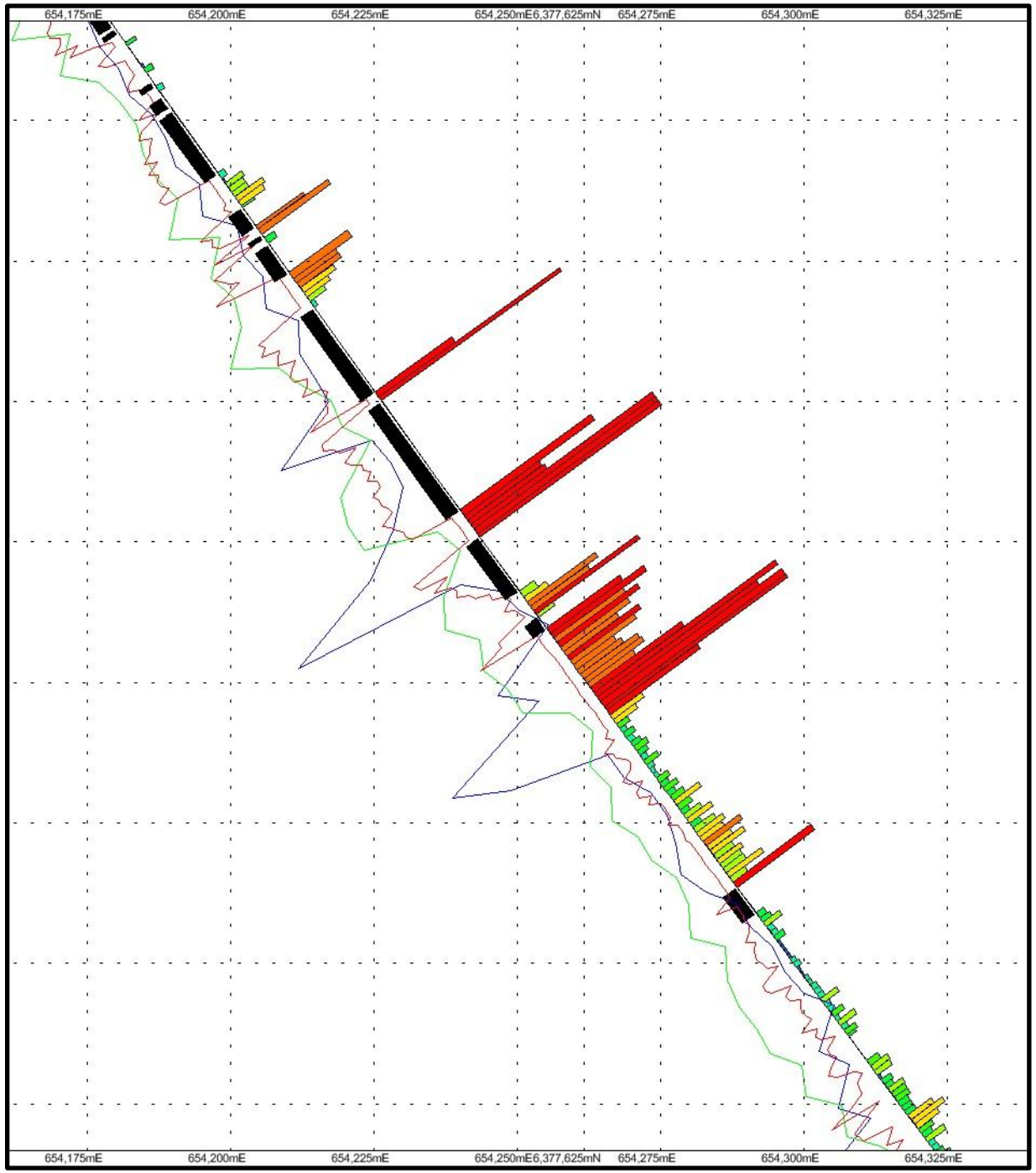
Through known resource.

The coloured bars are Cu assays.

Blue line = Chargeability
Green Line = Resistivity
Red Line= Magnetic susceptibility
Black = Dolerite Dykes

YZ-04 intersected strong bornite-chalcopyrite mineralisation associated with dolerite dykes of an intrusive porphyry.

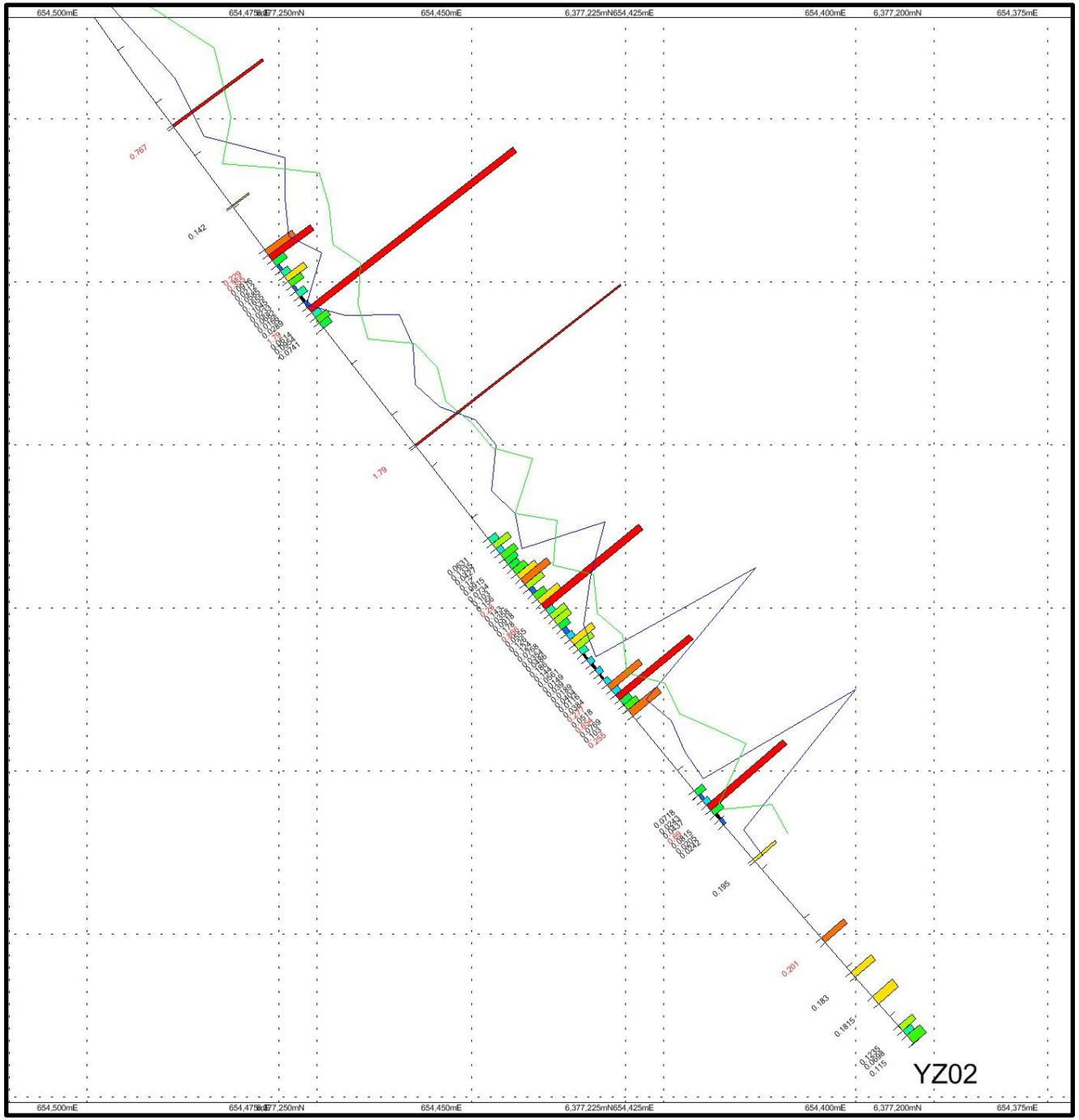
Note the close correlation between grade and chargeability.



# Results of Hole YZ02

The results of the drilling into the area of highest chargeability were not representative of the surface data or model.

Once again the DHIP correlates well with the grade even on the thin intercepts.



# Conclusions:

- 3D Offset Pole Dipole was successful at locating the known Yeoval Inferred Resource.
- Improved cabling and electrodes greatly improved the accuracy of the data to the point that chargeability could indicate grade – needs more research.
- The importance of DHIP to correlate surface data with data down hole.
- The benefits of doing this prior to the rig leaving site.
- The benefits of an integrated service.