

The Remainder of the Deer:
Geophysics and the Discovery of the
Southern Extension of the Antler VMS Deposit,
Arizona, USA

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ASEG MAG21 Symposium – 24th November 2021, Perth, WA

Terra Resources Pty. Ltd. | Terra Petrophysics Pty. Ltd.
www.terraresources.com.au | www.terrapetrophysics.com.au



Introduction

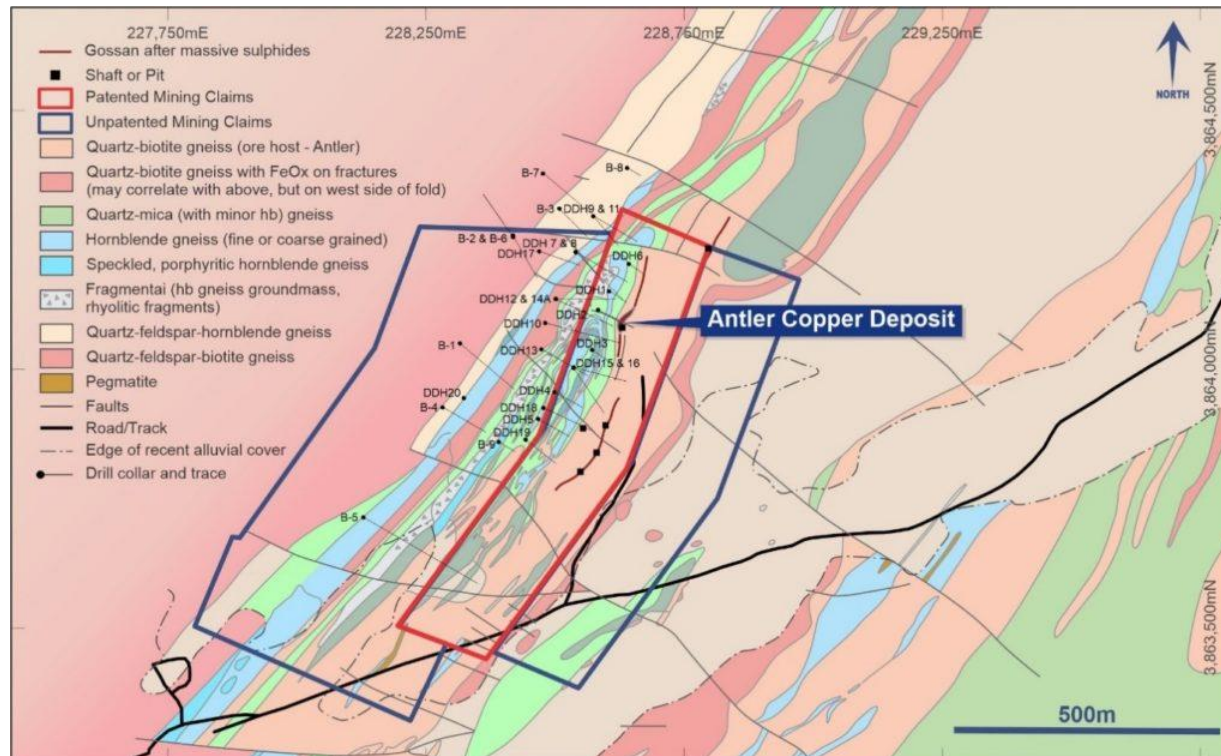
- Antler is a polymetallic deposit with a historic resource of 4.7Mt @ 1.95% Cu, 4.13% Zn, 0.94% Pb and 35.9g/t Ag (~3.4% Cu equivalent).
- From 1916 to 1970, ~70,000 tonnes of ore were mined to a depth of ~150m.
- No exploration work since 1975.
- New World Resources (ASX:NWC) took an interest in the project in January 2020 with the aim of extending the orebody and recommencing mining.



Regional Geology



- Proterozoic metasedimentary and metavolcanic rocks of the Mojave Domain.
- Exposures within the Miocene Basin & Range Province of western Arizona.



SW USA Geology Map (MiraCosta)

- Antler is a strata-bound copper-zinc VMS deposit.
 - Massive to semi-massive sulphide lenses.
 - Chalcopyrite, pyrrhotite, pyrite, sphalerite, galena.
- JORC MRE November 2021 - **7.7Mt @ 2.2% Cu, 5.3% Zn, 0.9% Pb, 28.8 g/t Ag, 0.18 g/t Au**

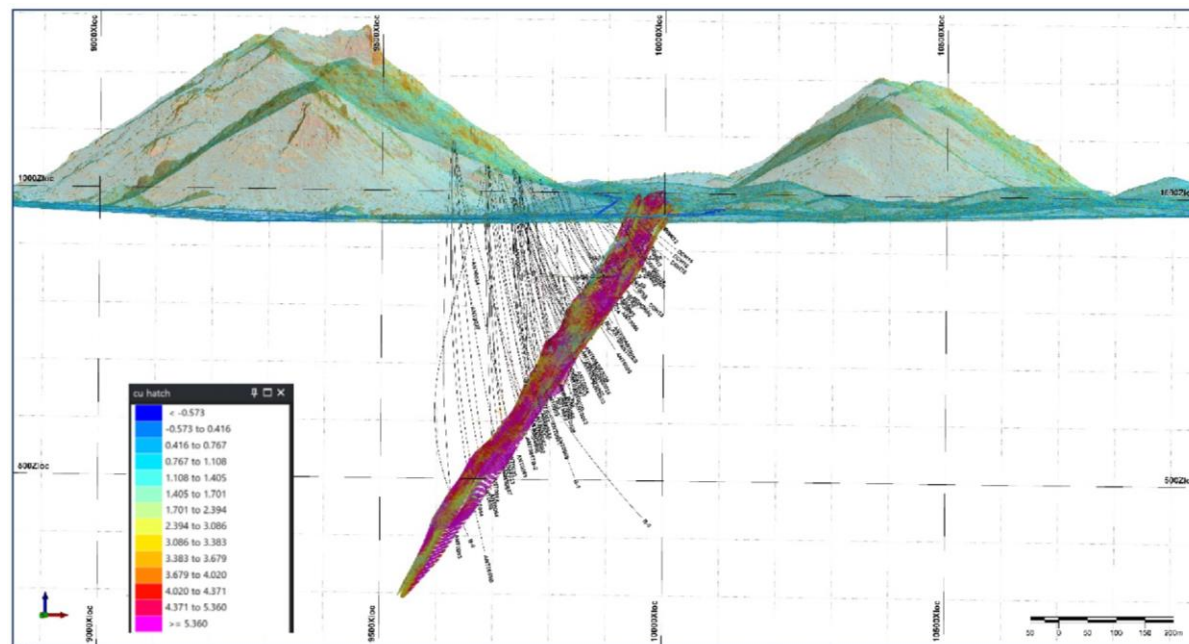
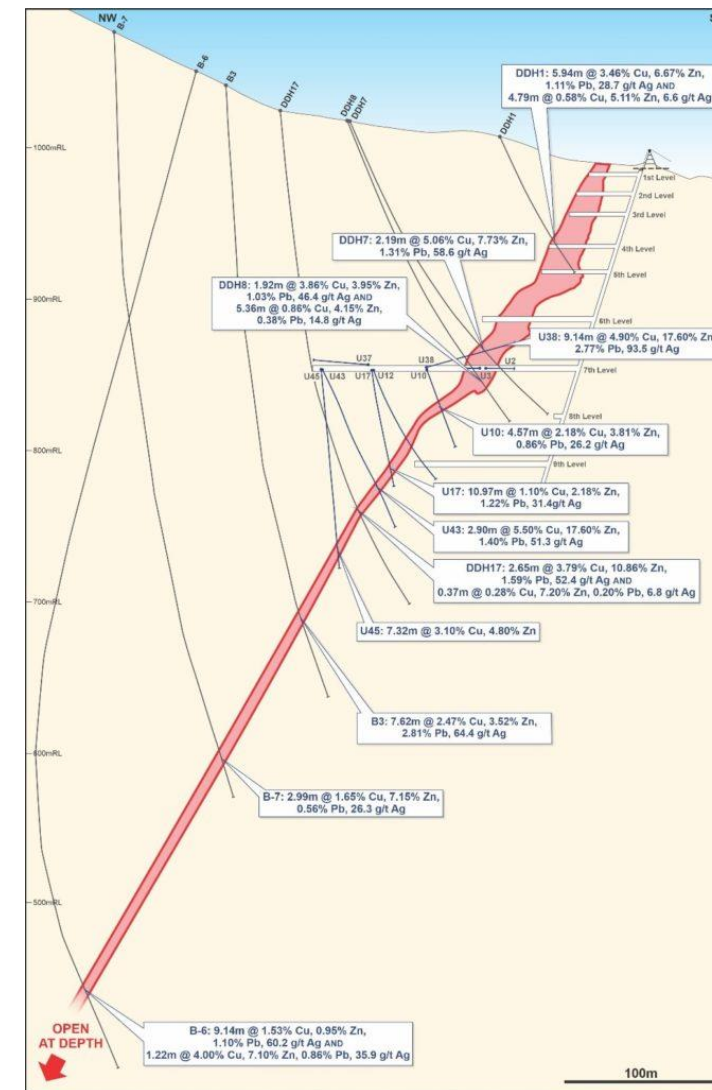


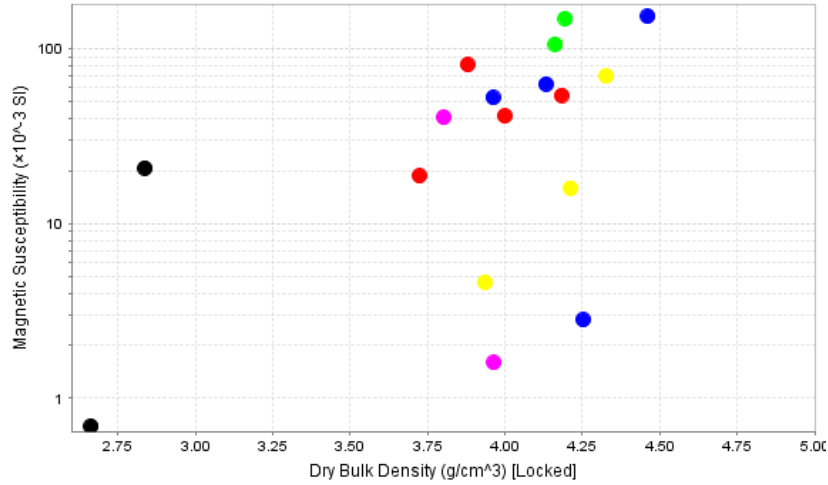
Figure 1. All Indicated and Inferred Blocks greater than 1.0% Cu-equivalent for the Antler Resource Block Model – looking north.



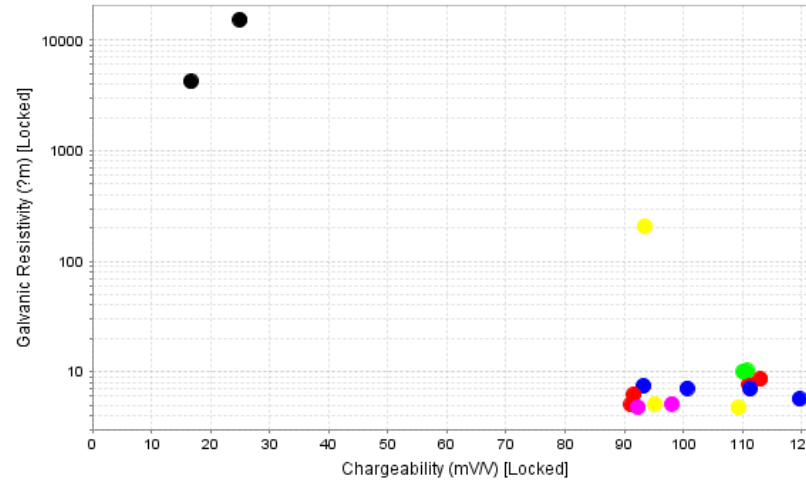
Antler Main deposit cross section showing recent drilling (NWC)

- Terra Petrophysics conducted a petrophysical assessment of 17 samples supplied by NWC in May 2020.
- Quarter core samples contained disseminated to semi-massive sulphides:
 - pyrrhotite, pyrite, chalcopyrite, sphalerite, galena.
- Strongly magnetic, very dense, strongly conductive (both inductive and galvanic) and strongly chargeable.

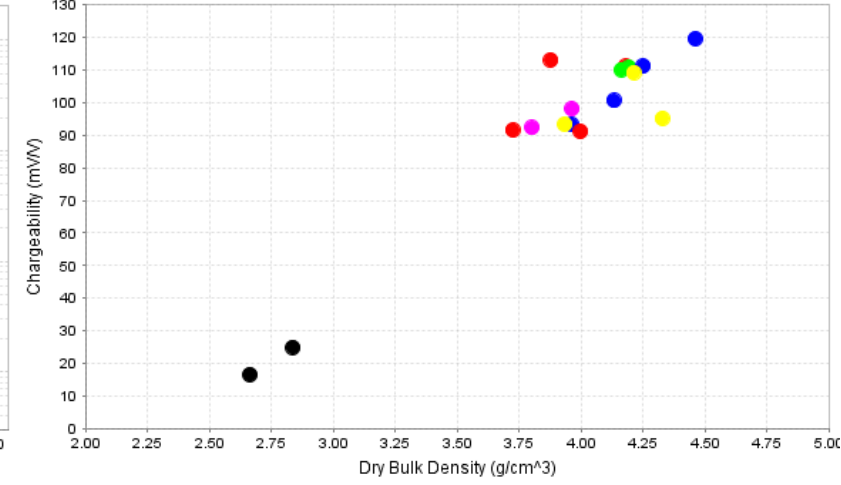
Dry Bulk Density (g/cm³) vs. Magnetic Susceptibility (×10⁻³ SI)



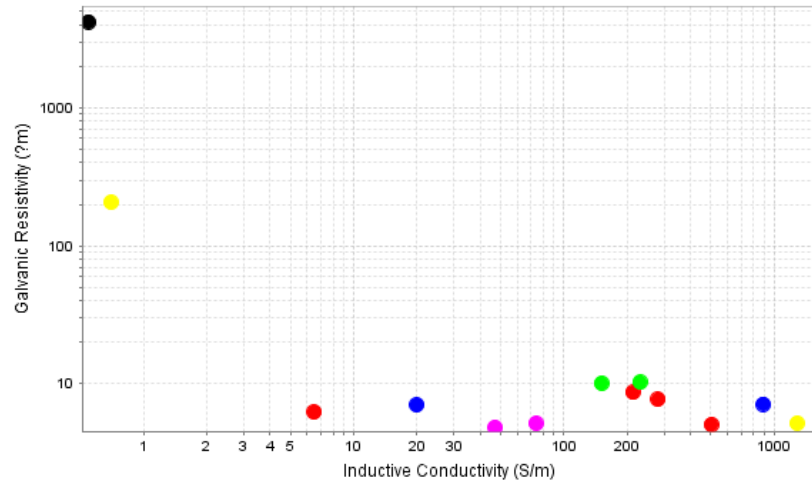
Chargeability (mV/V) vs. Galvanic Resistivity (Ωm)



Dry Bulk Density (g/cm³) vs. Chargeability (mV/V)

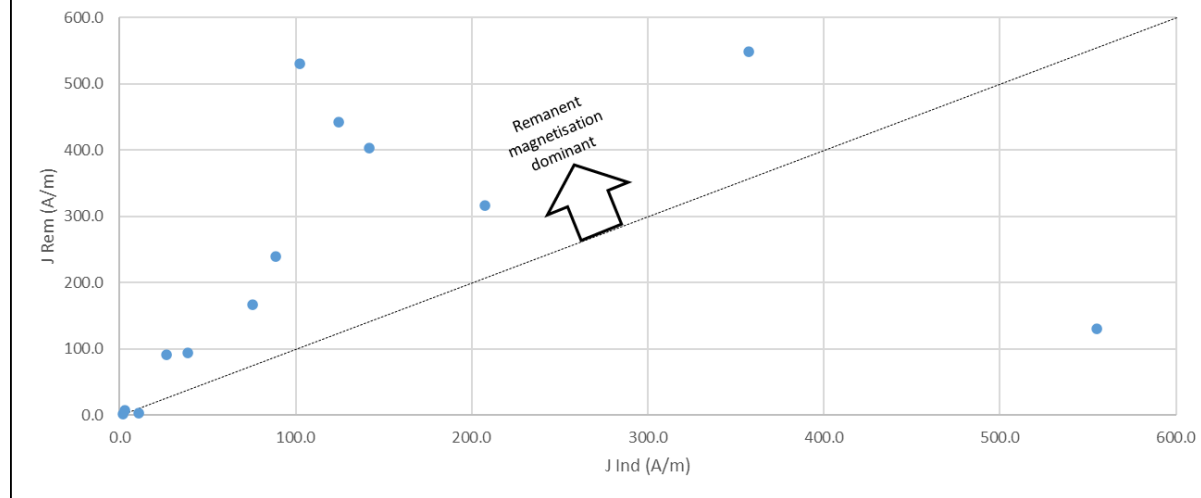


Inductive Conductivity (S/m) vs. Galvanic Resistivity (Ωm)



- No Assay
- Cu_pct to 1.3
- Cu_pct to 2.49
- Cu_pct to 3.45
- Cu_pct to 4.18
- Cu_pct to 6.4

Induced Magnetism (A/m) vs. Remanent Magnetism (A/m)



Predominately Py with lesser Cpy
and Po (yellow), Sph (purple)

Inductive Conductivity: 0.7 S/m

Resistivity: 206.43 Ω m

IP: 93.38 mV/V

Density: 3.94 g/cm³

Porosity: 1.24%

Magnetic Susceptibility: 4.61×10^{-3} SI

Velocity: 3730 m/s



1 cm



Cpy, Py, Po (yellow), Sph (purple),
Gal (black)

Inductive Conductivity: 1287.68 S/m

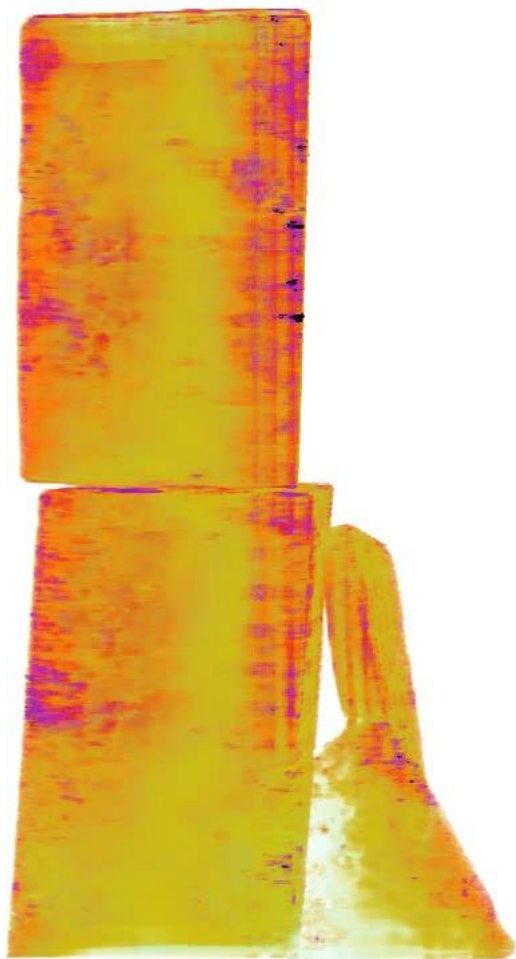
Resistivity: 5.14 Ω m

IP: 95.15 mV/V

Density: 4.33 g/cm³

Porosity: 0.41%

Magnetic Susceptibility: 69.63 x 10⁻³ SI

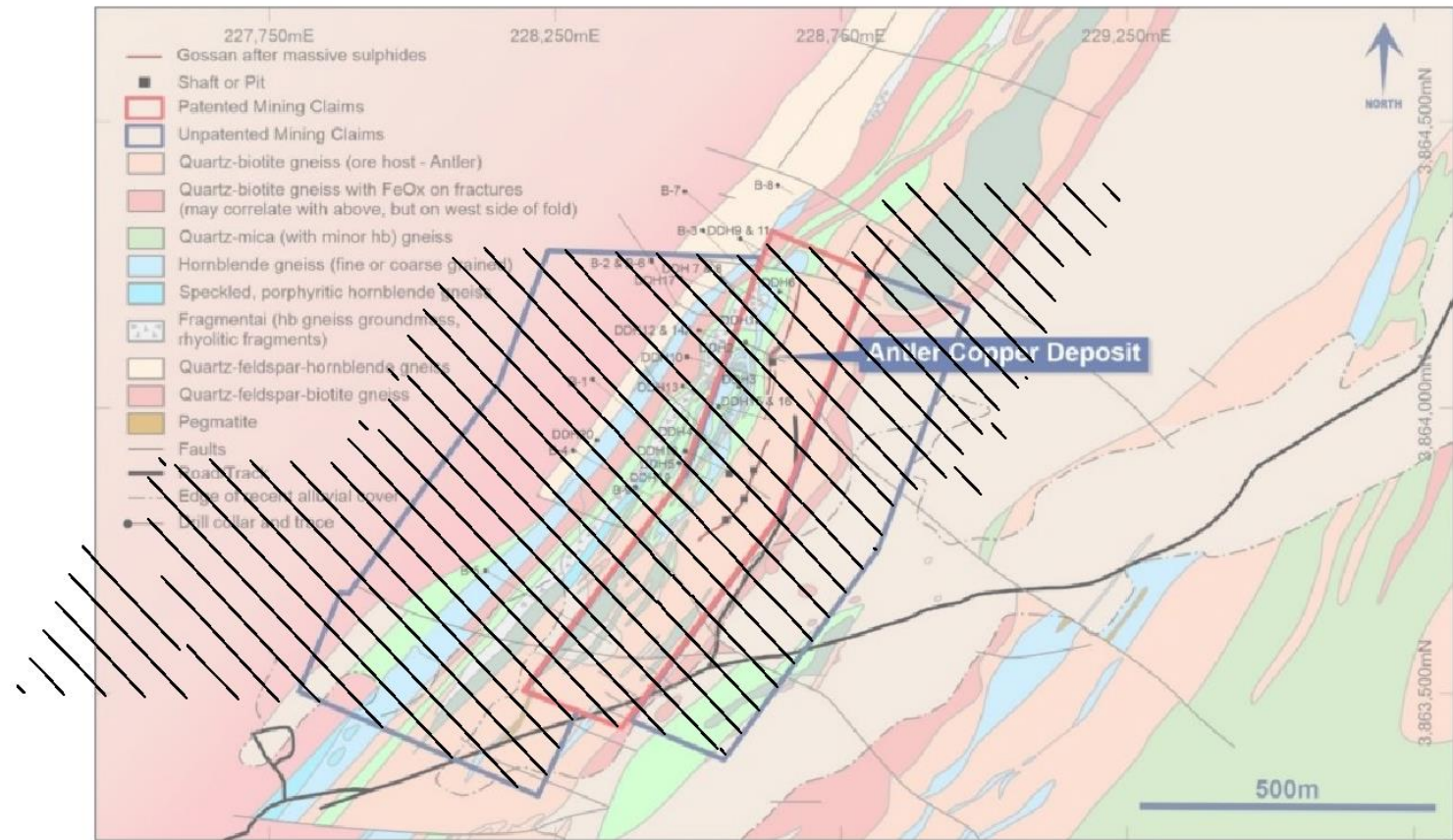


1 cm

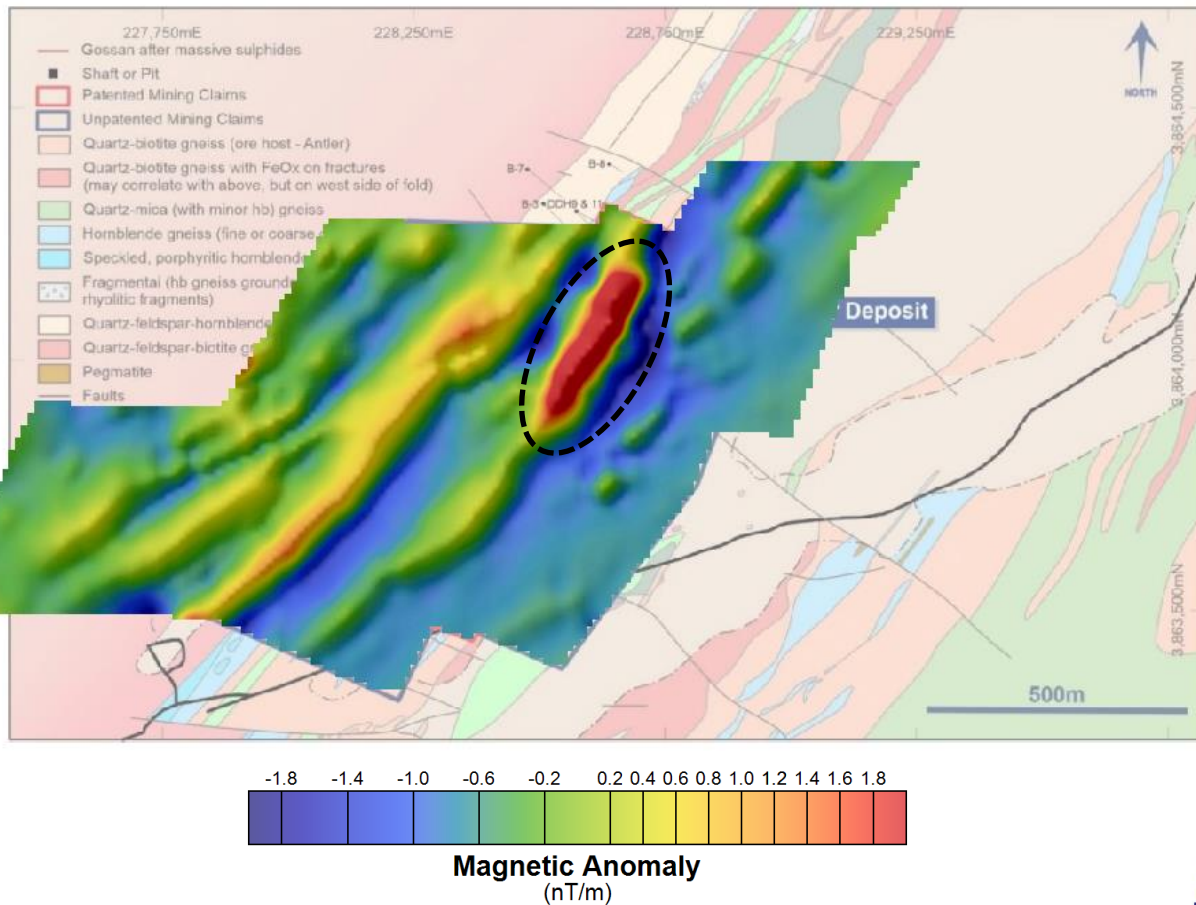


Airborne Magnetics

- UAV (drone) platform
- Single sensor
- 100m line spacing
- 40m terrain clearance
- 045/135° line direction

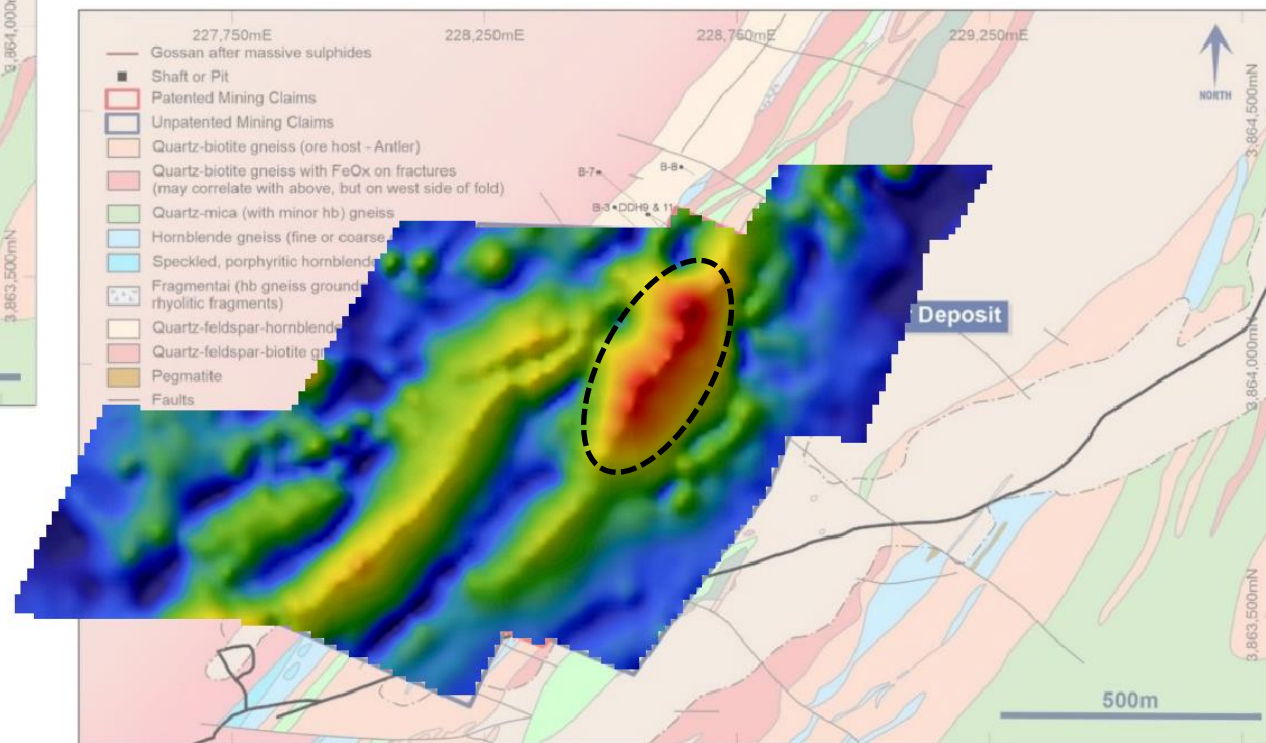
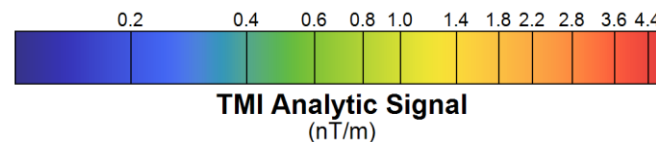


Airborne Magnetics

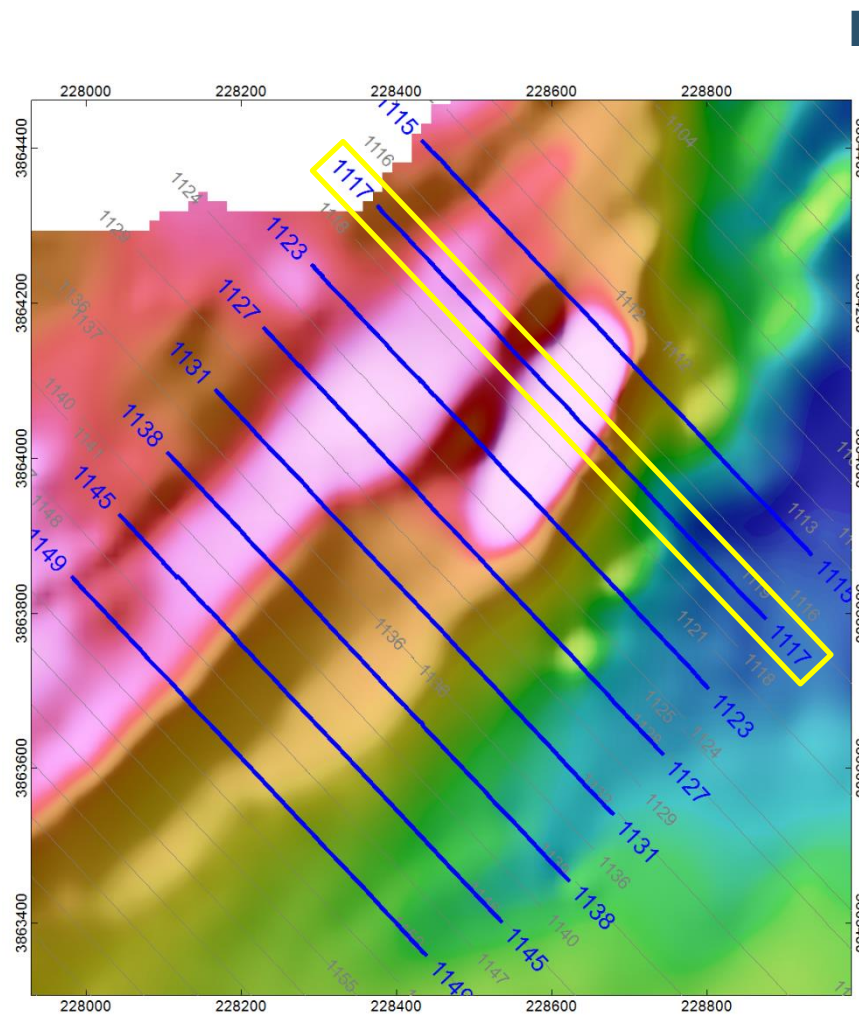


Total Magnetic Intensity
 Reduced to Pole
 Vertical Derivative

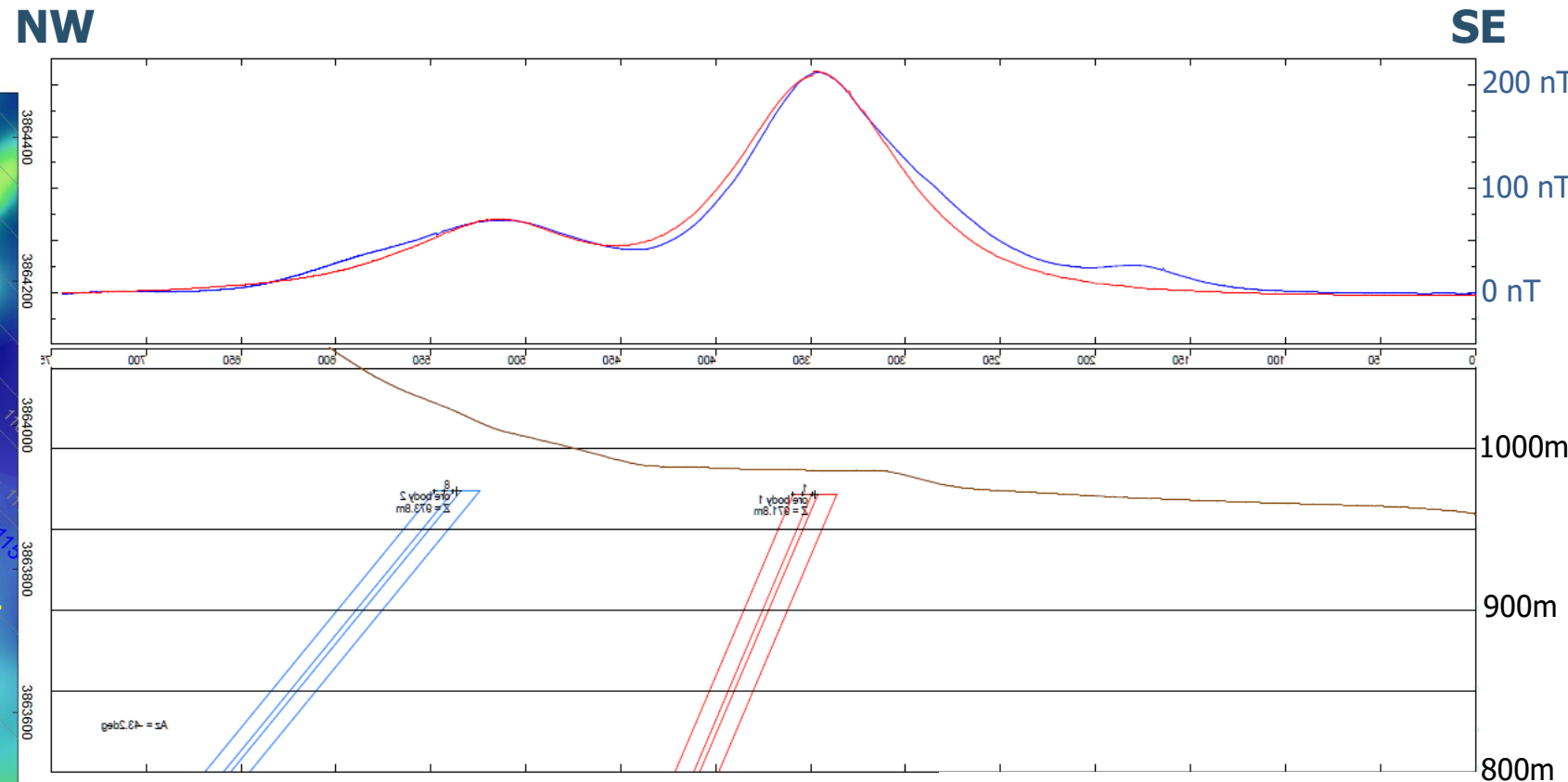
Total Magnetic Intensity Analytic Signal



2D Forward Modelling

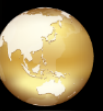


RTP + 1VD

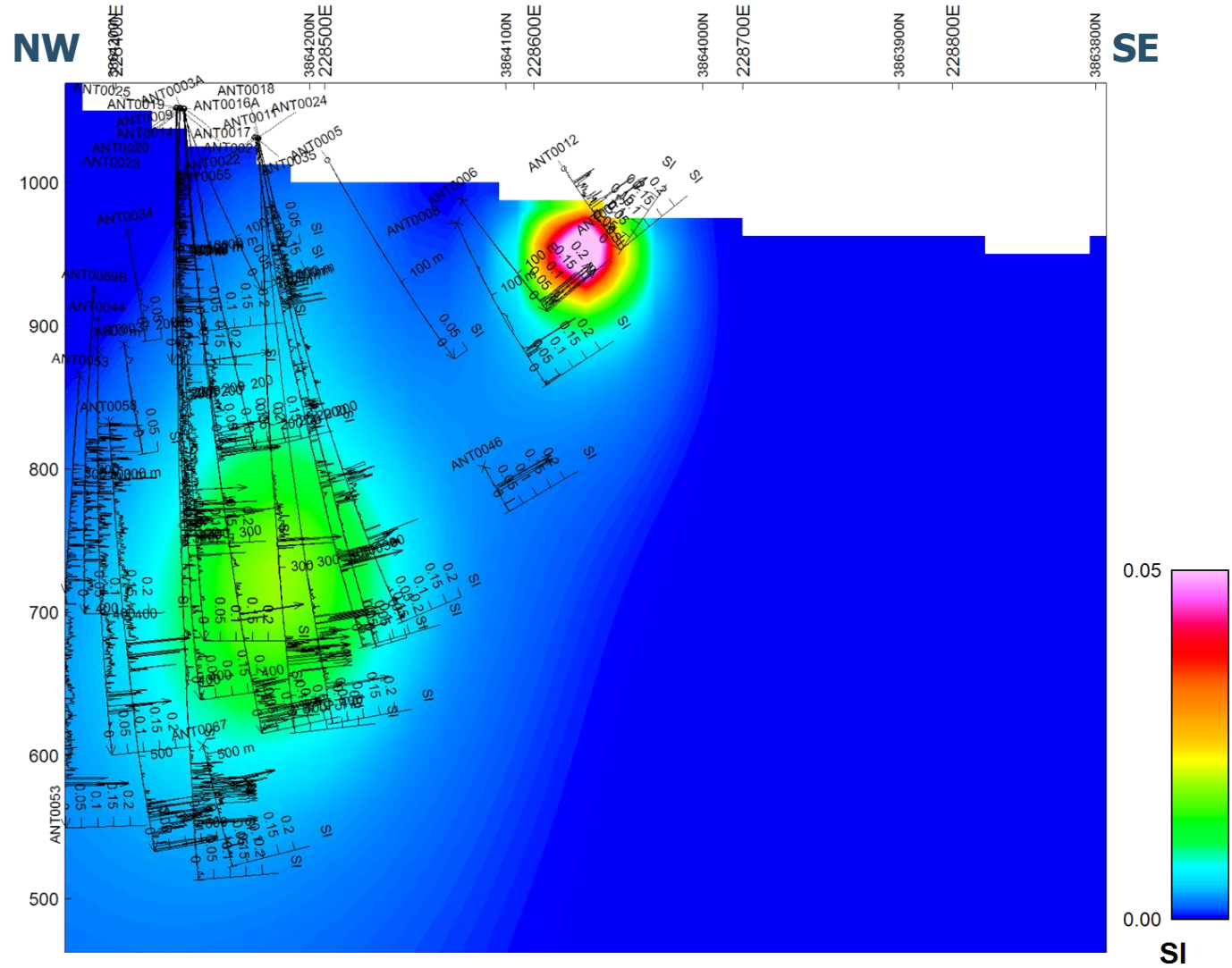
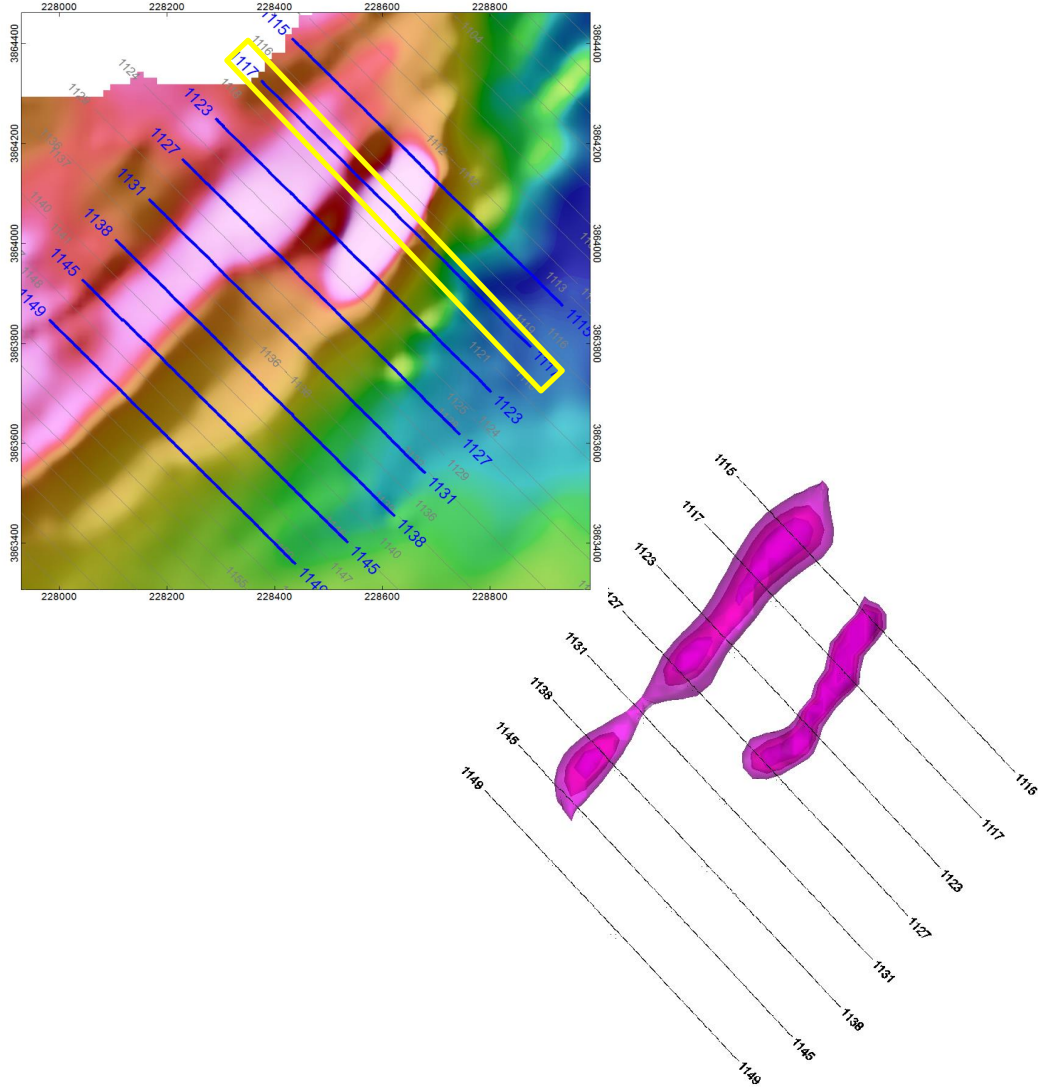


Terra Resources		
New World Resources Limited Antler Project		
2020 Drone Magnetic Survey 2.5D Forward Model - Line 1123		
Map Reference: NAD83 UTM Zone 12		
Author: J.J. Leong	Original scale: 1:2000	Report No.:
Drawn by: Terra	Date: 01 July 2020	Plan No.:

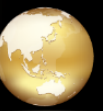
3D Unconstrained Inversion Modelling



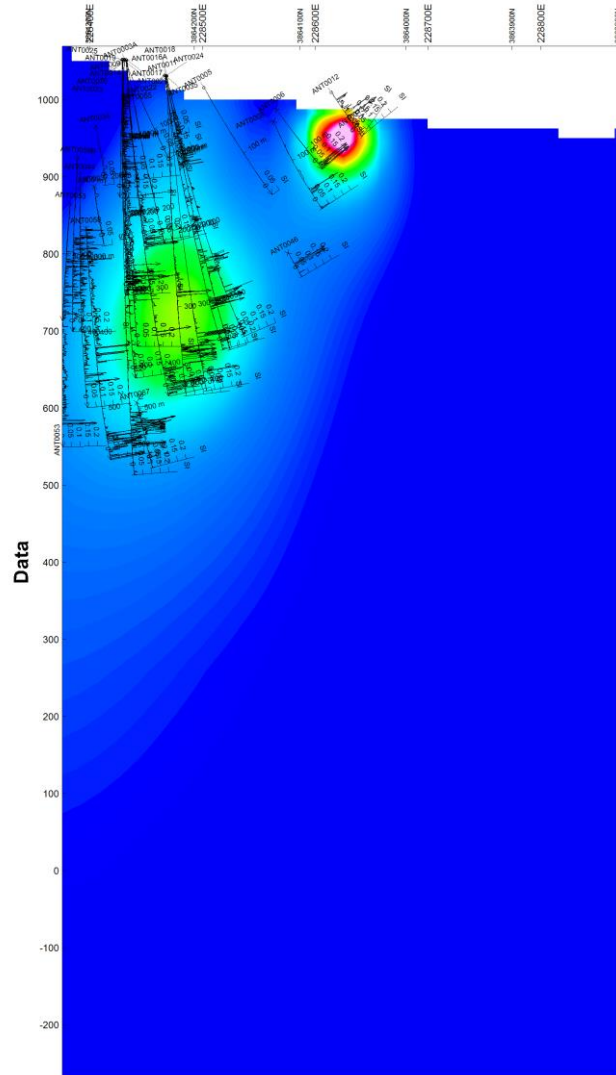
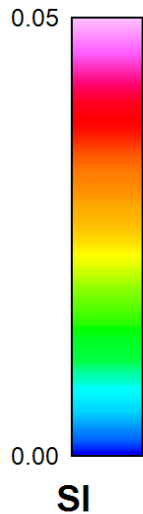
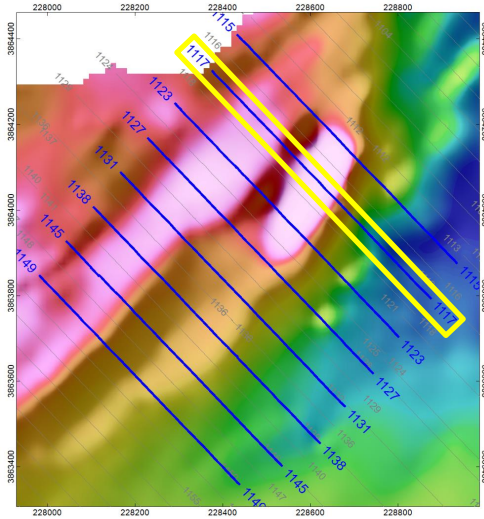
TERRA
RESOURCES



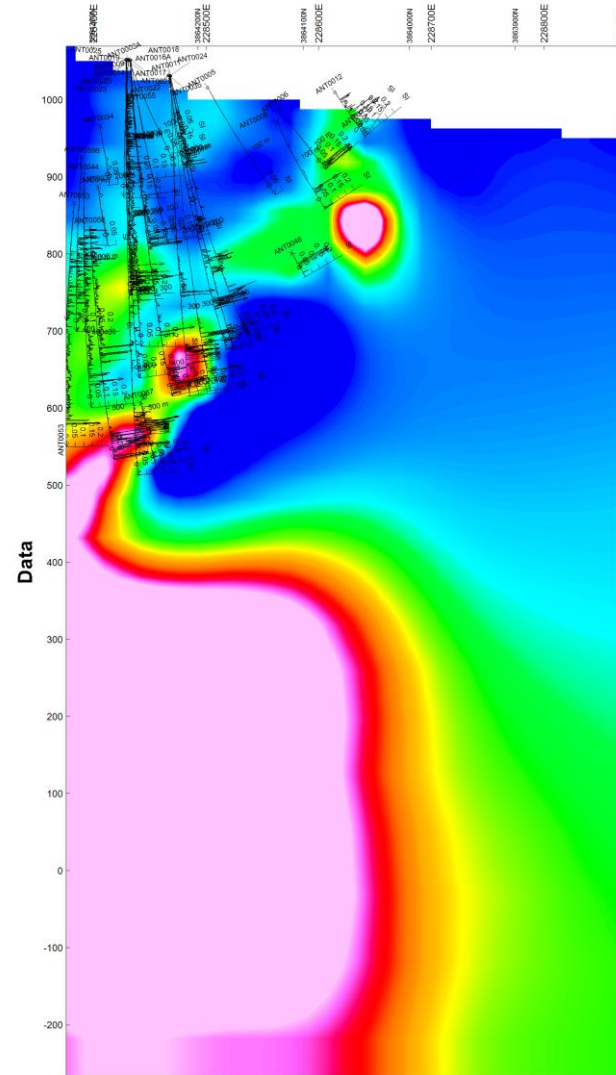
3D Constrained Inversion Modelling



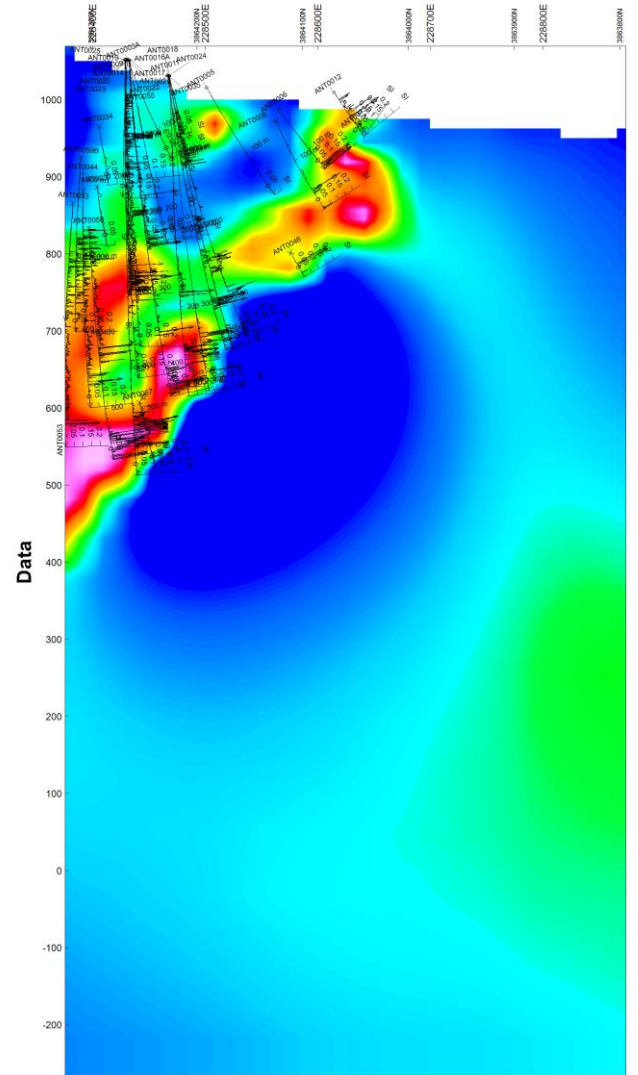
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RESOURCES



Unconstrained inversion.

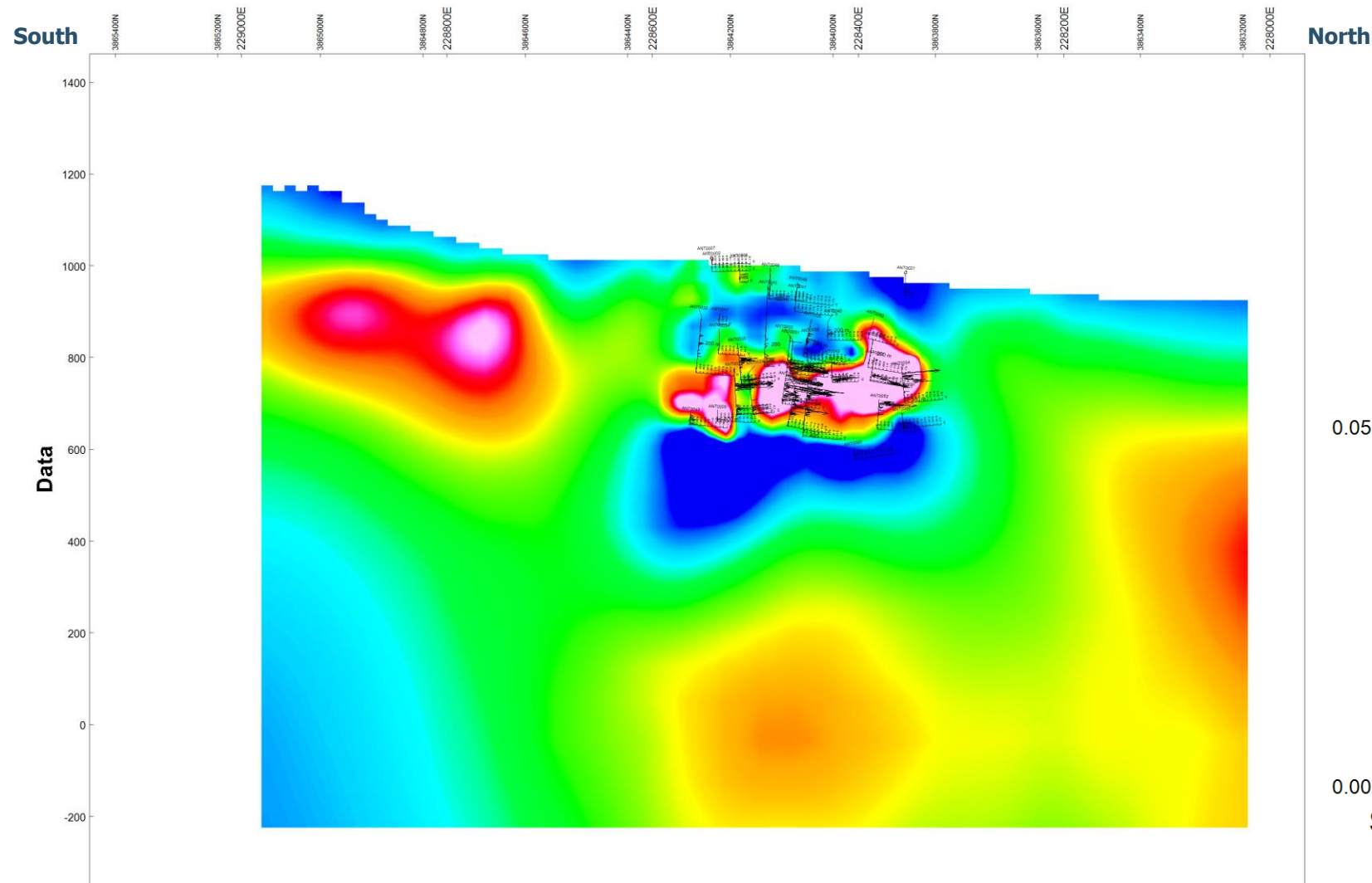
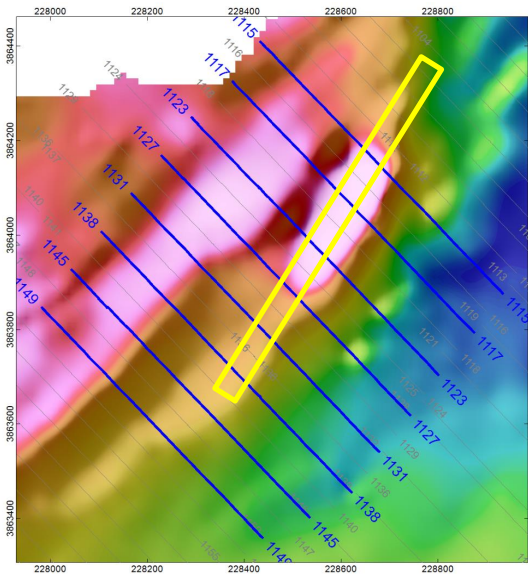


First-pass constrained inversion



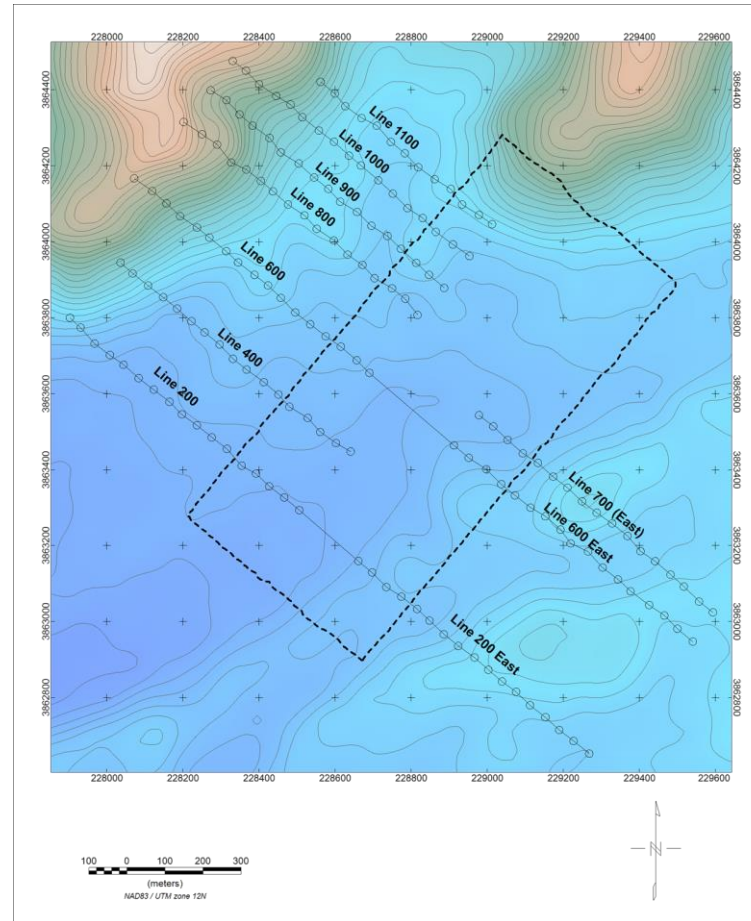
Final constrained inversion

3D Constrained Model – Long Section

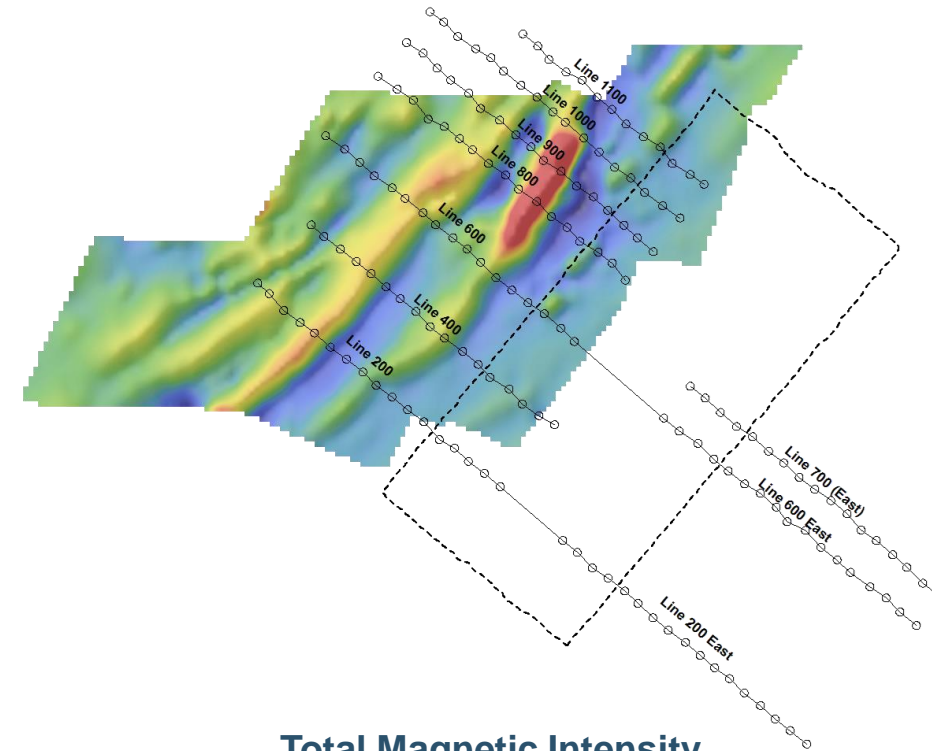


Fixed Loop EM

- 1300×600m loop.
- 100 & 200m lines.
- 50m stations.
- 1 Hz base frequency.

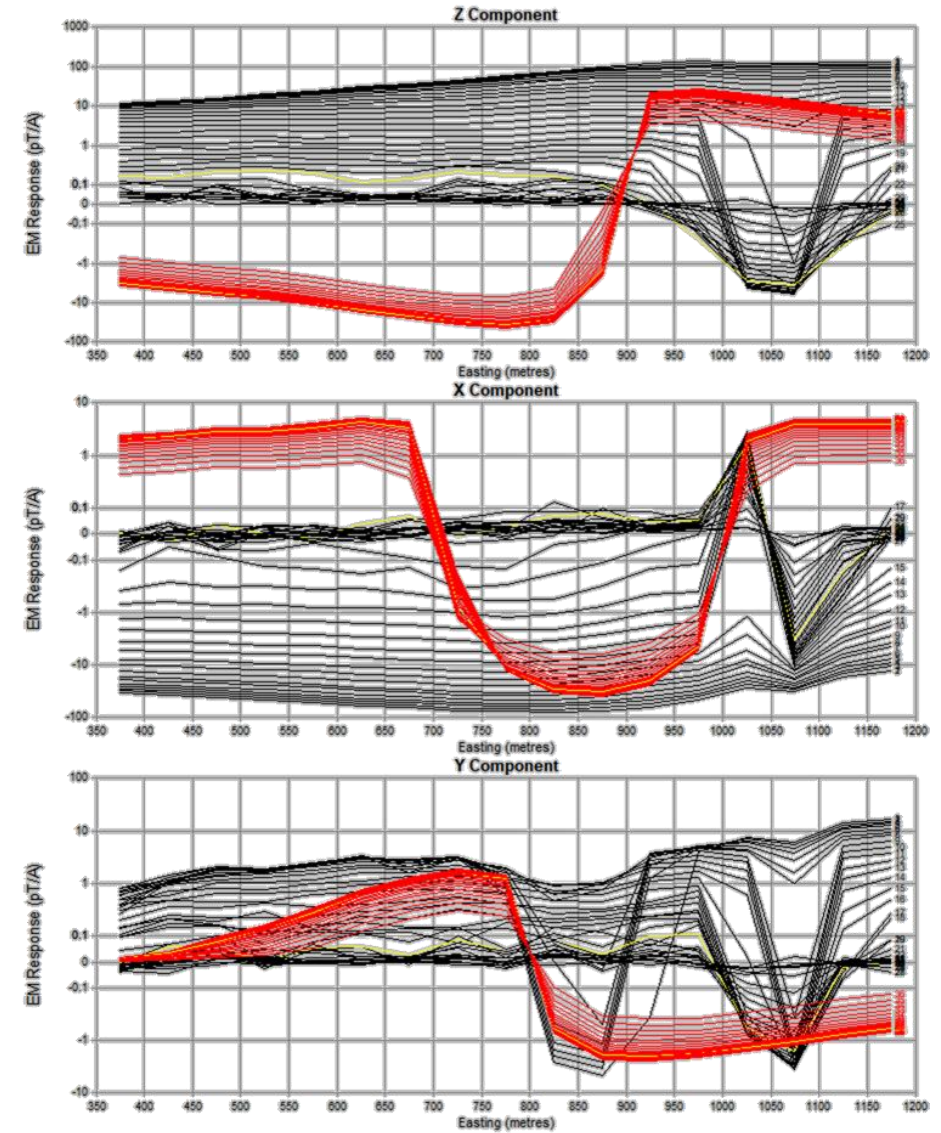
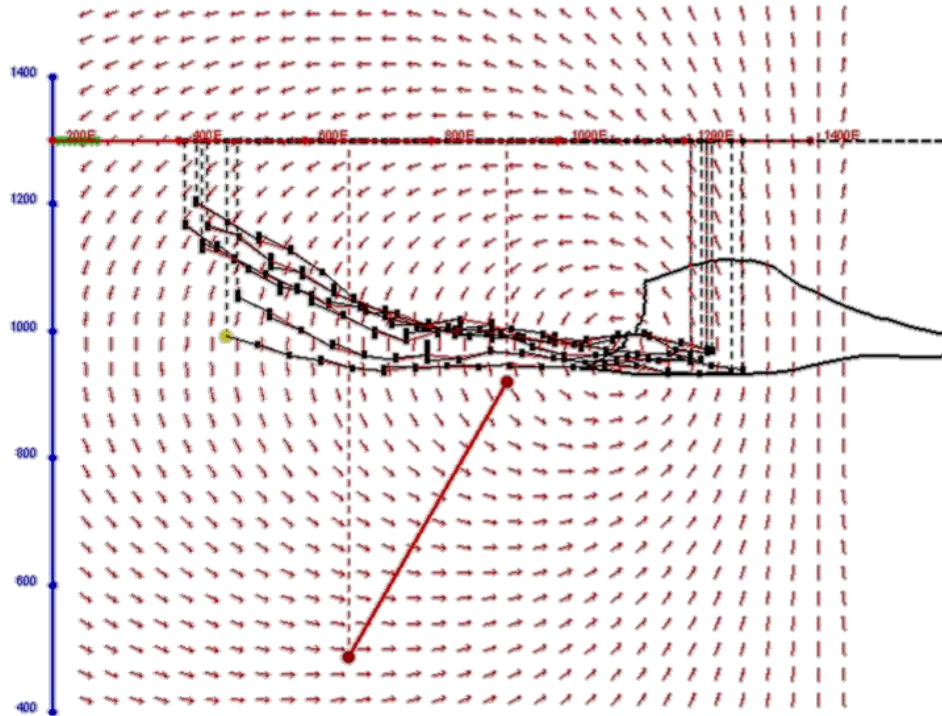


FLEM layout over Digital Elevation Model

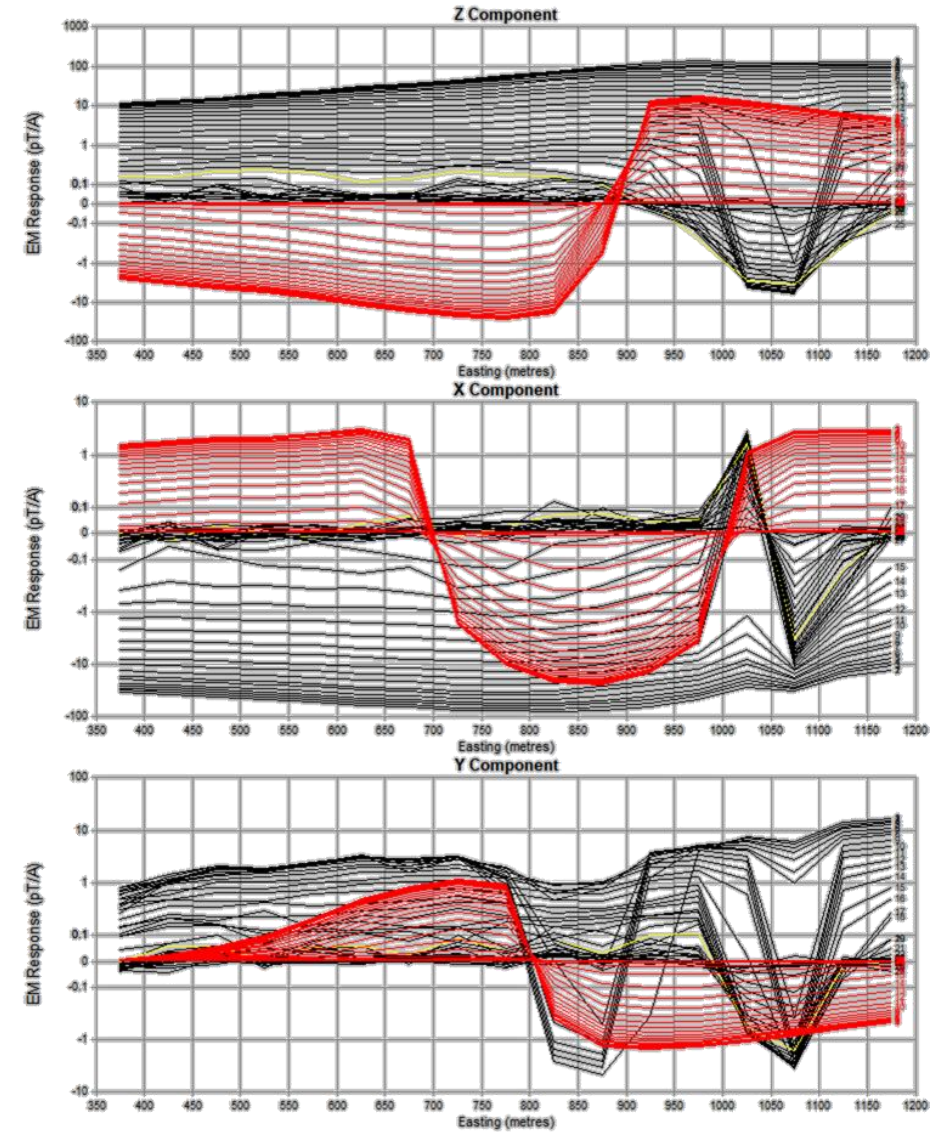
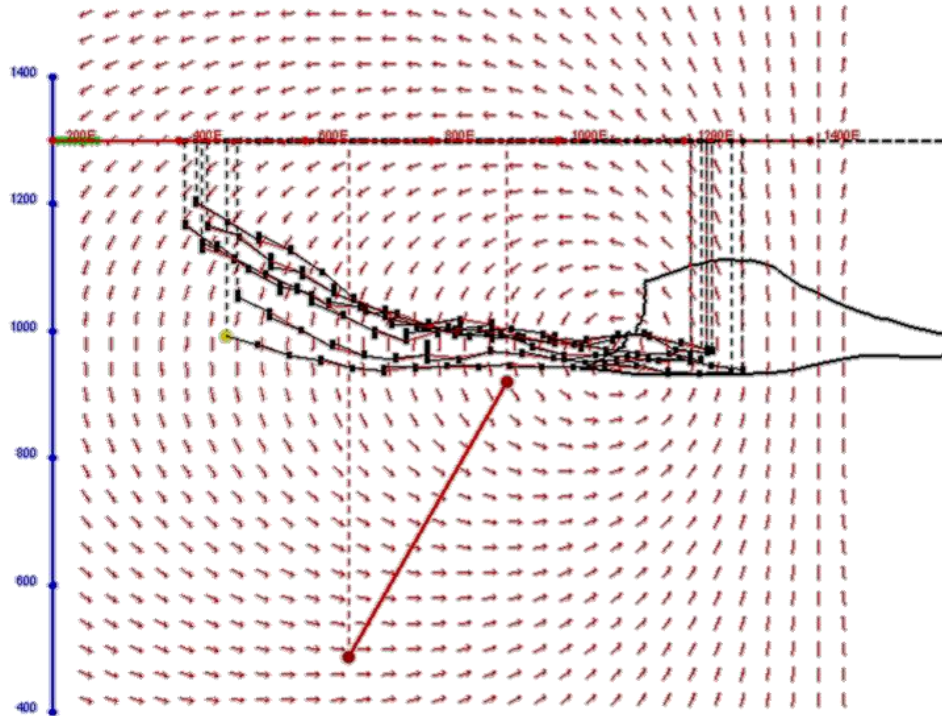


Total Magnetic Intensity
Reduced to Pole
Vertical Derivative

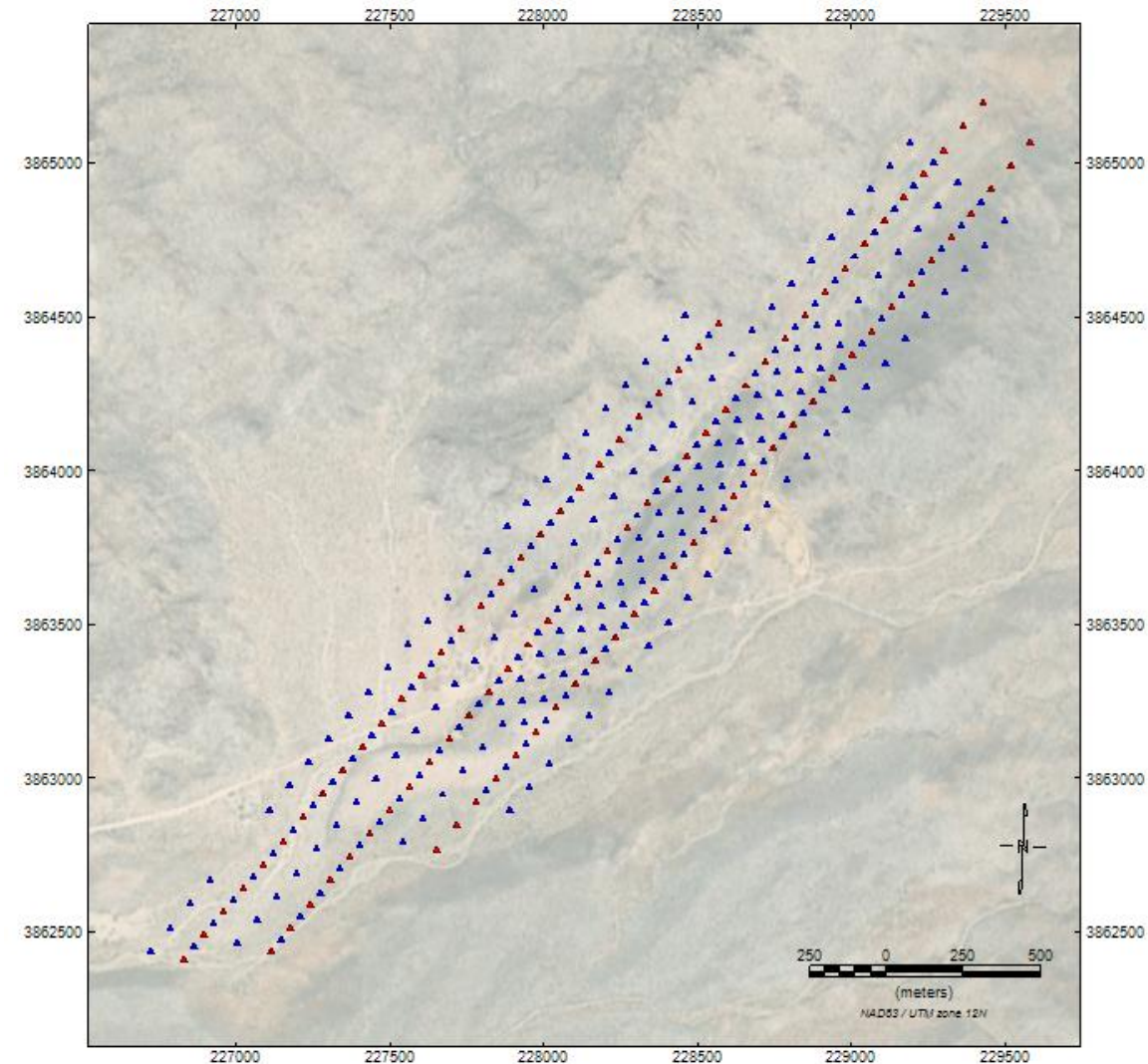
FLEM Forward Modelling



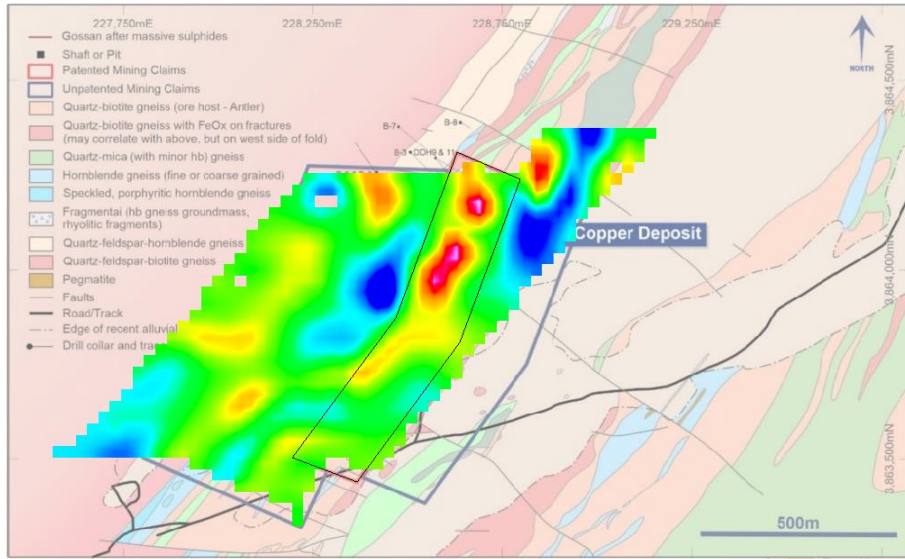
FLEM Forward Modelling



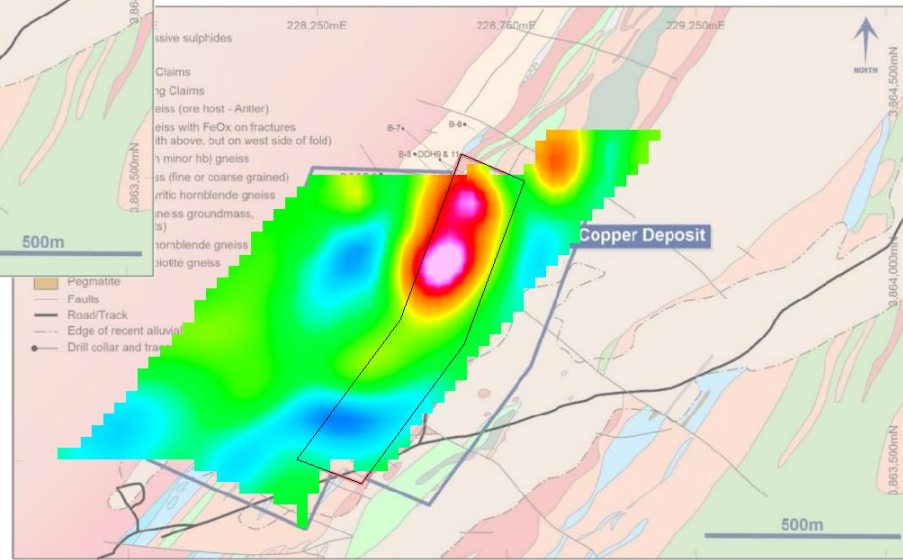
- Pole-dipole, double offset including inline Tx/Rx
 - Nominal dipole length of 100 m with a maximum of 76 active channels.
 - 100m line spacing + 50m infill over orebody.
 - ~3 km maximum offset.
 - Current from 0.05 to 2.4A.
 - Square waveform
 - 50% duty cycle
 - 0.125 Hz frequency
 - Mx calculated from 462 to 1151 ms.
- Pseudo-2D inversions performed for QC.
- Final 3D inversion of data.



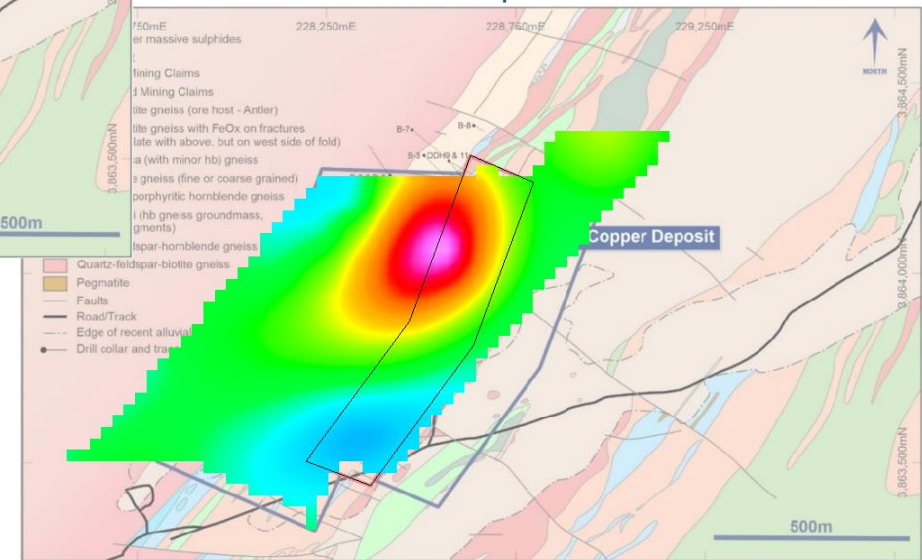
3D Resistivity Inversion – Depth Slices



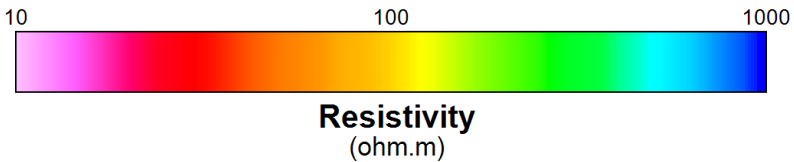
100m Depth



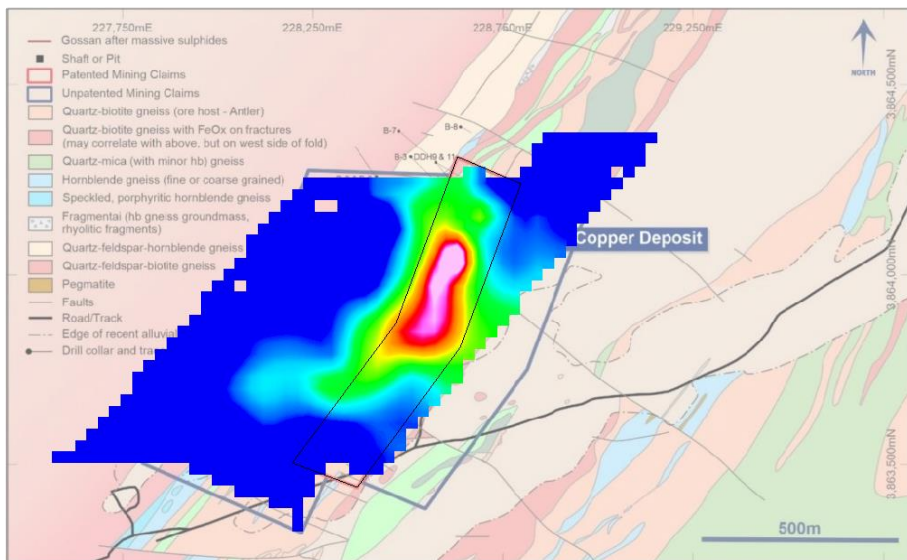
200m Depth



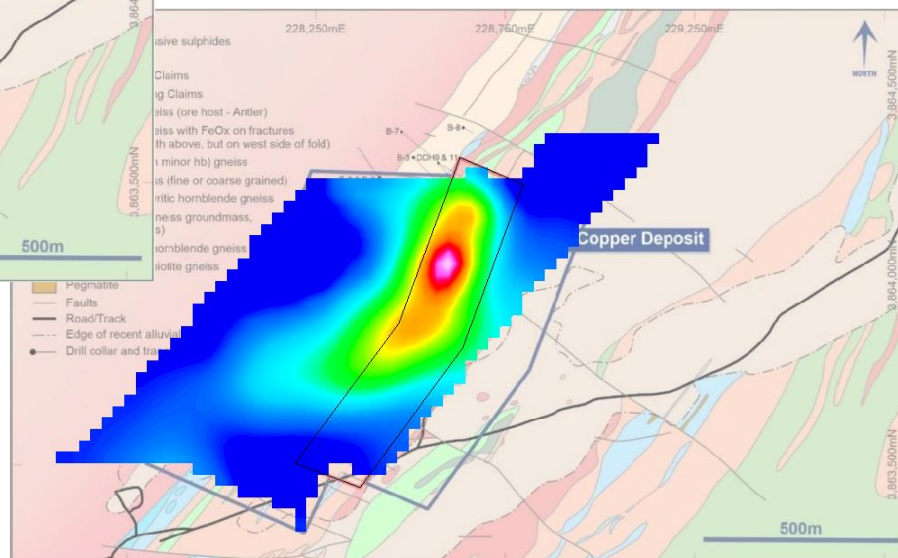
400m Depth



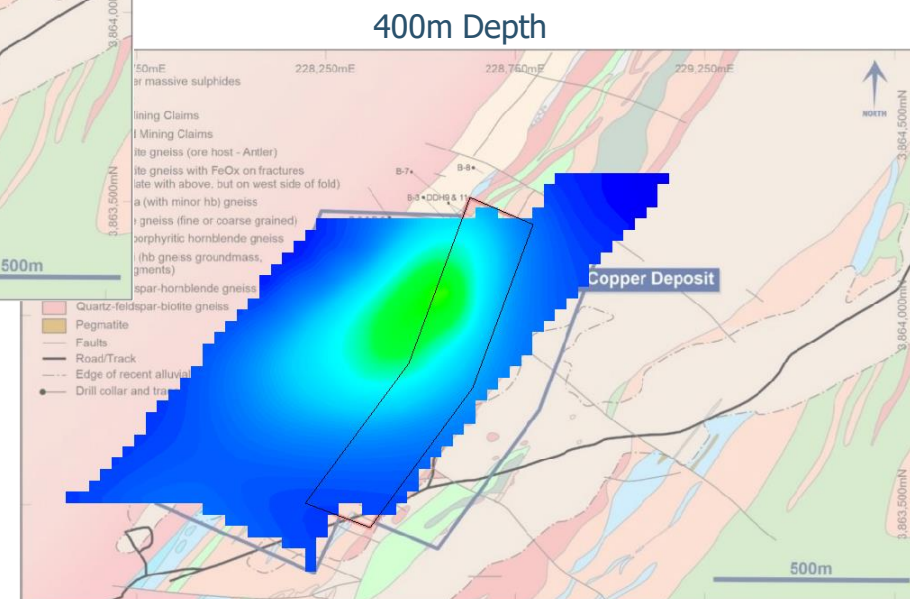
3D Chargeability Inversion – Depth Slices



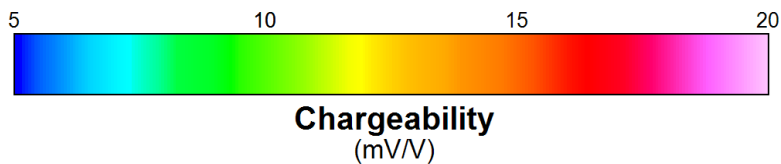
100m Depth



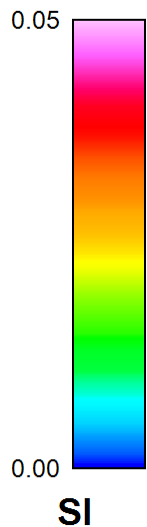
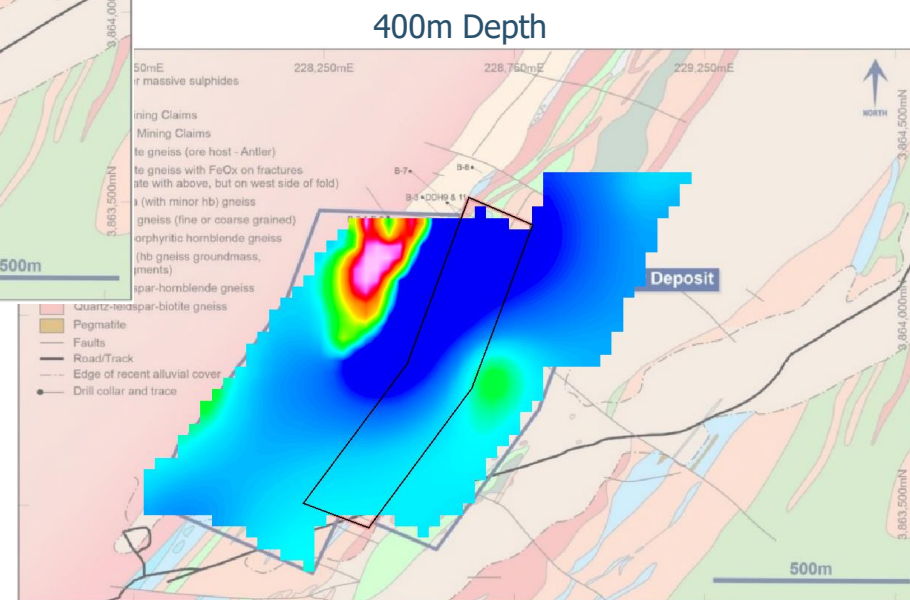
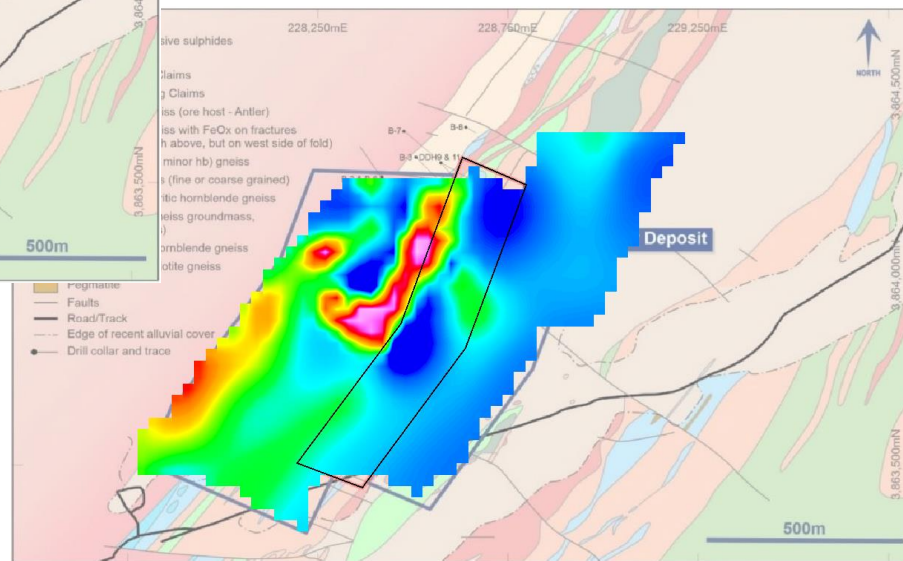
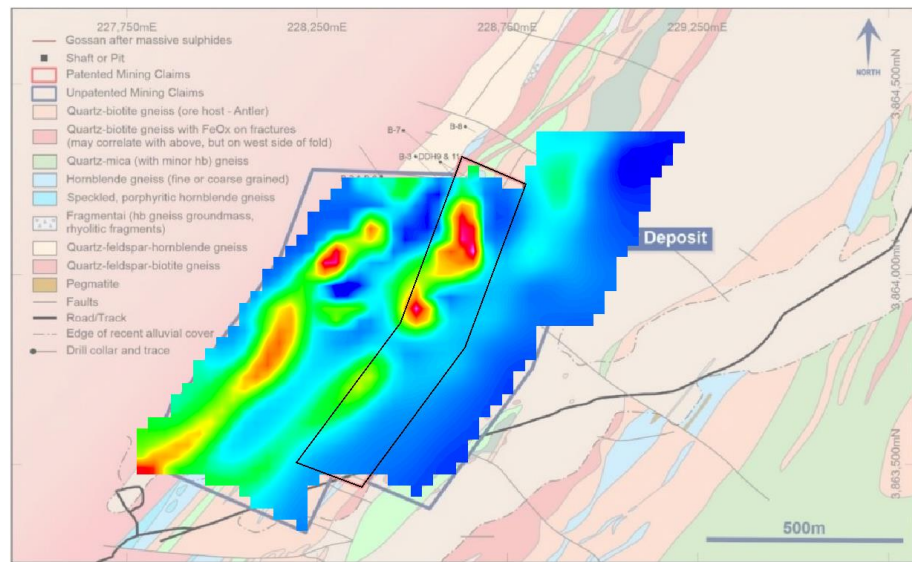
200m Depth



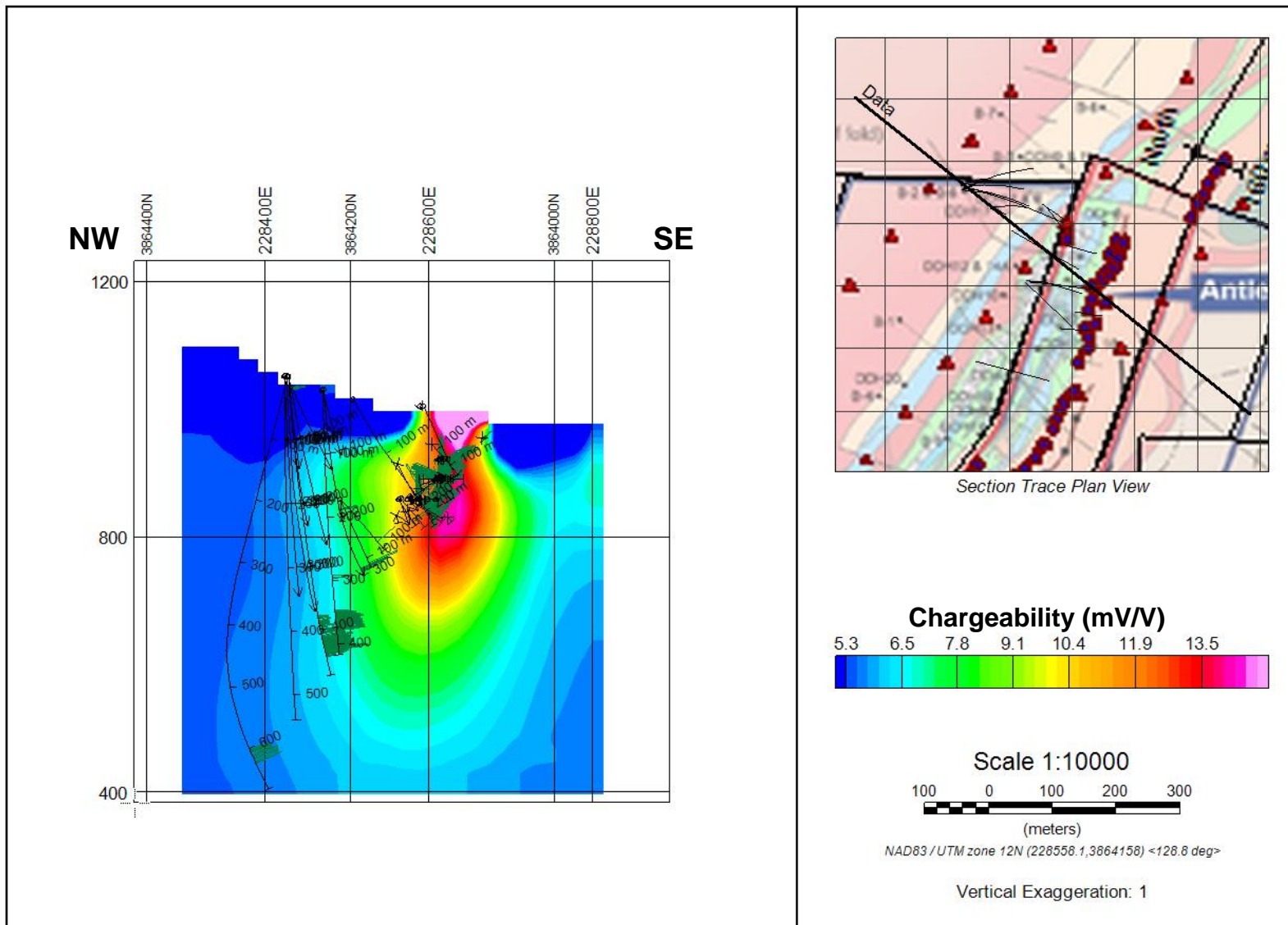
400m Depth



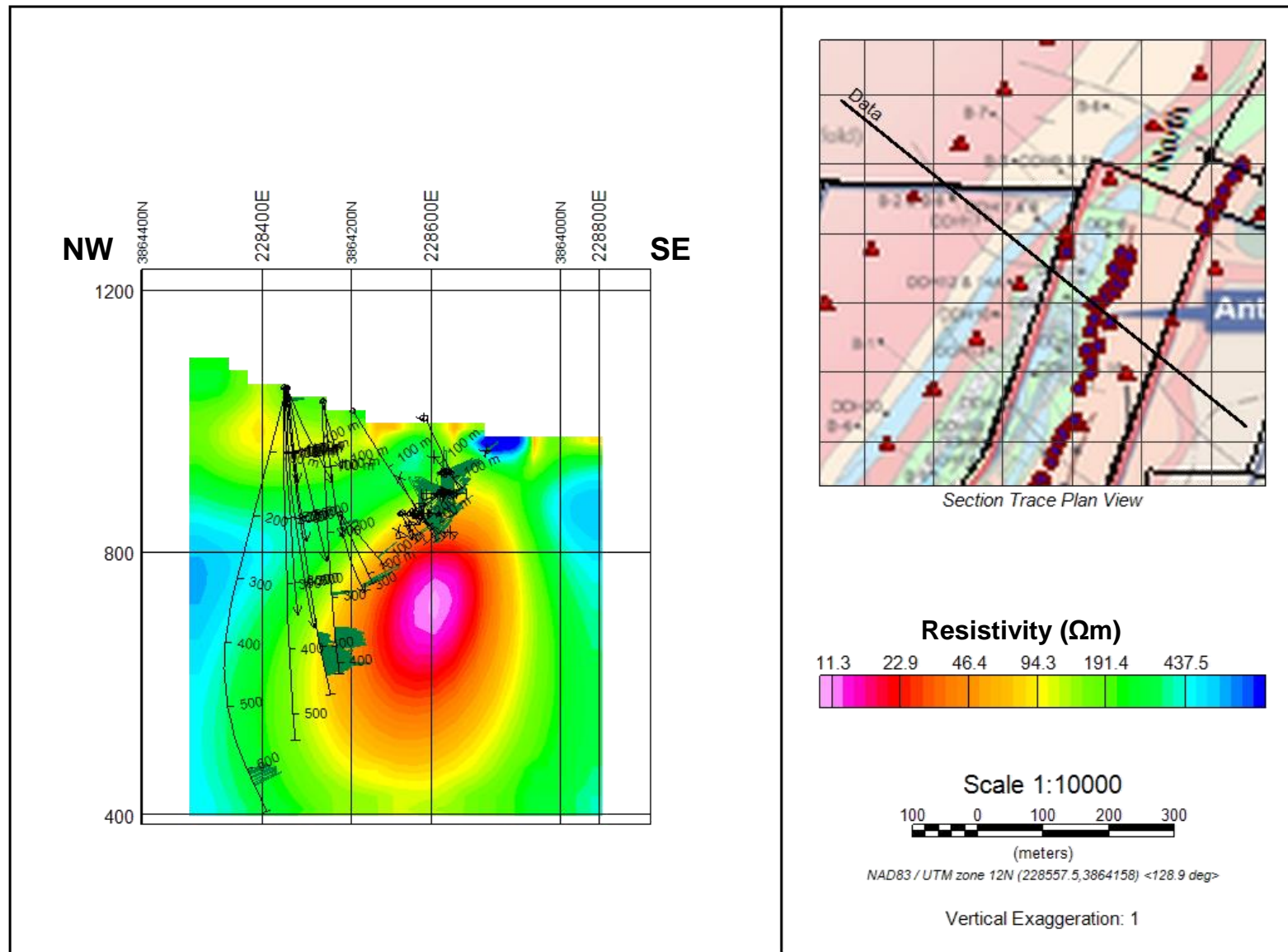
3D Magnetic Susceptibility Inversion – Depth Slices



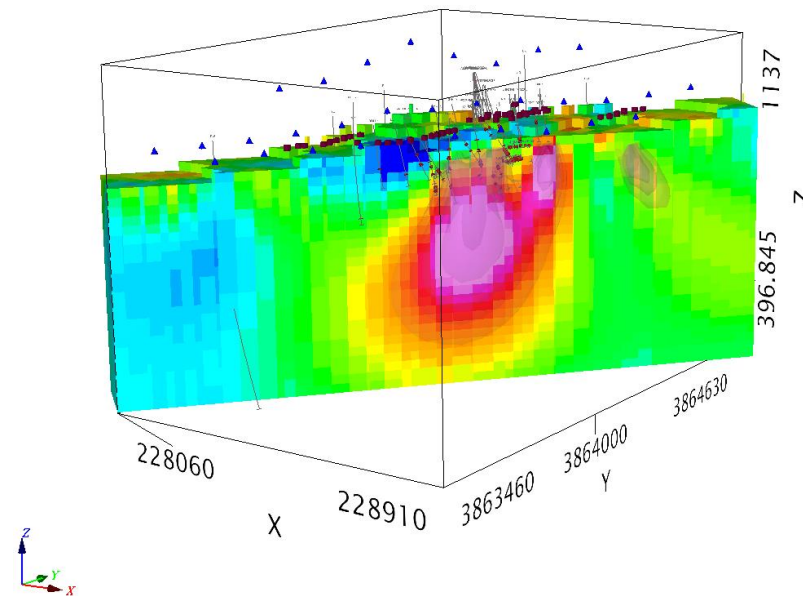
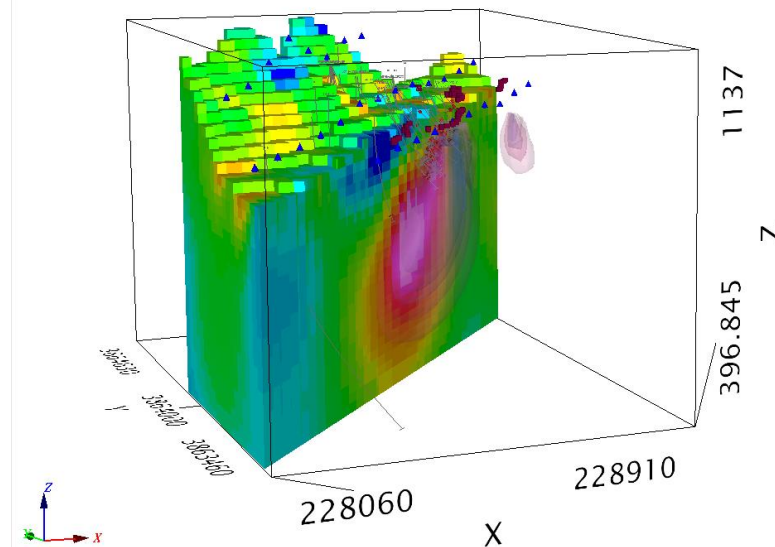
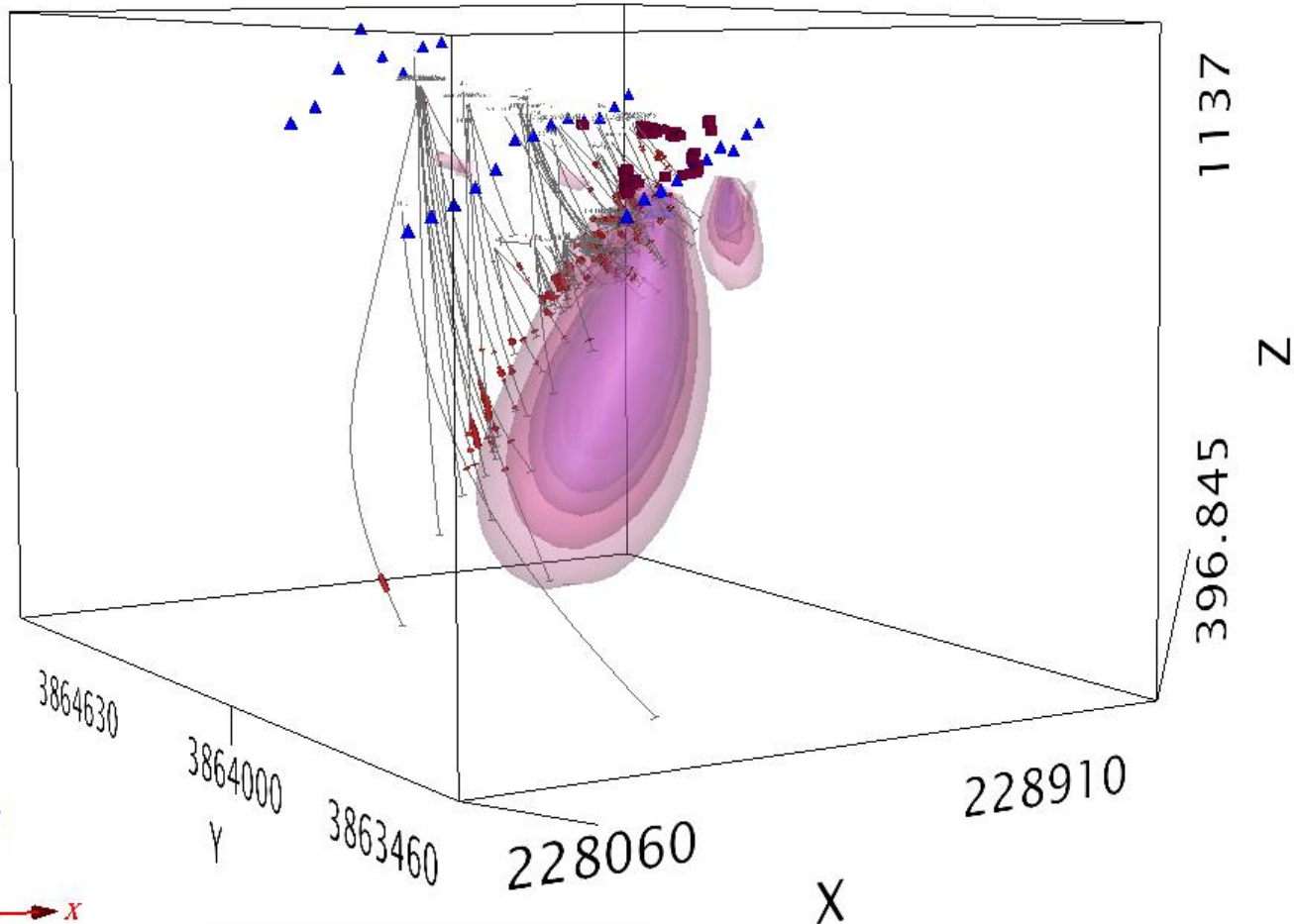
Antler Chargeability Cross Section



Antler Resistivity Cross Section

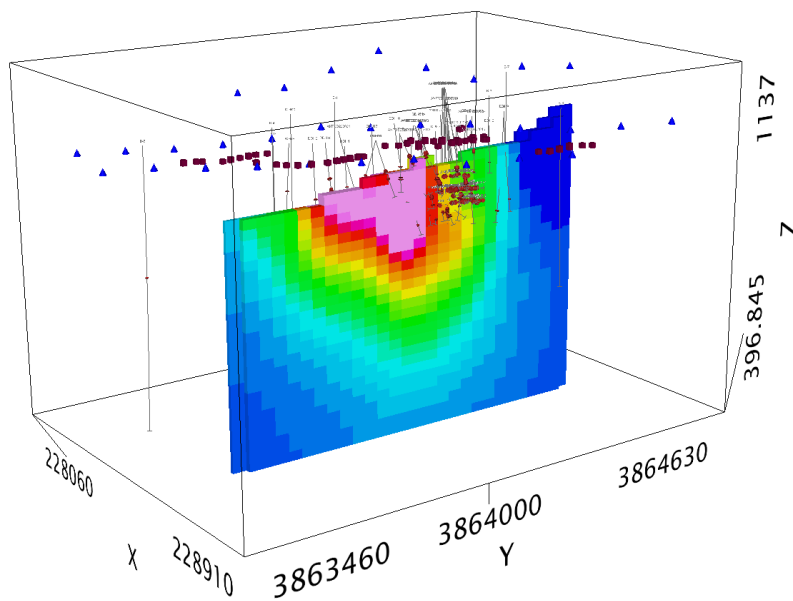
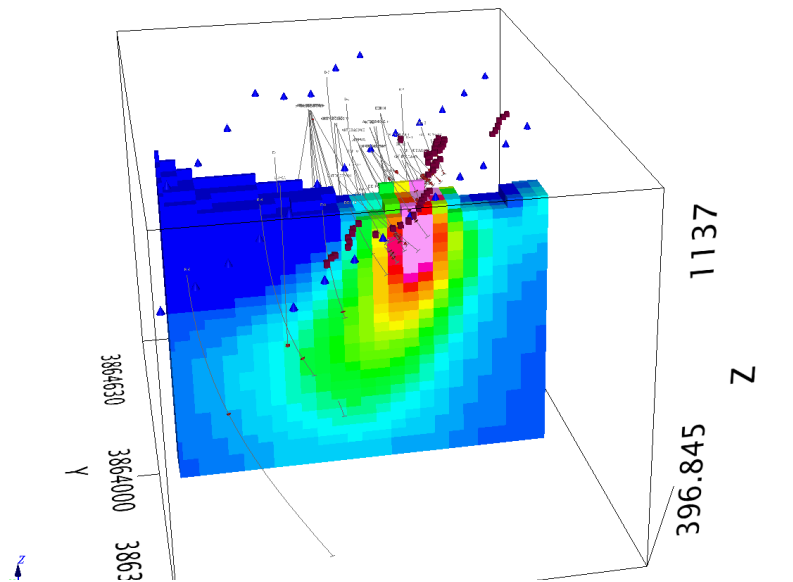
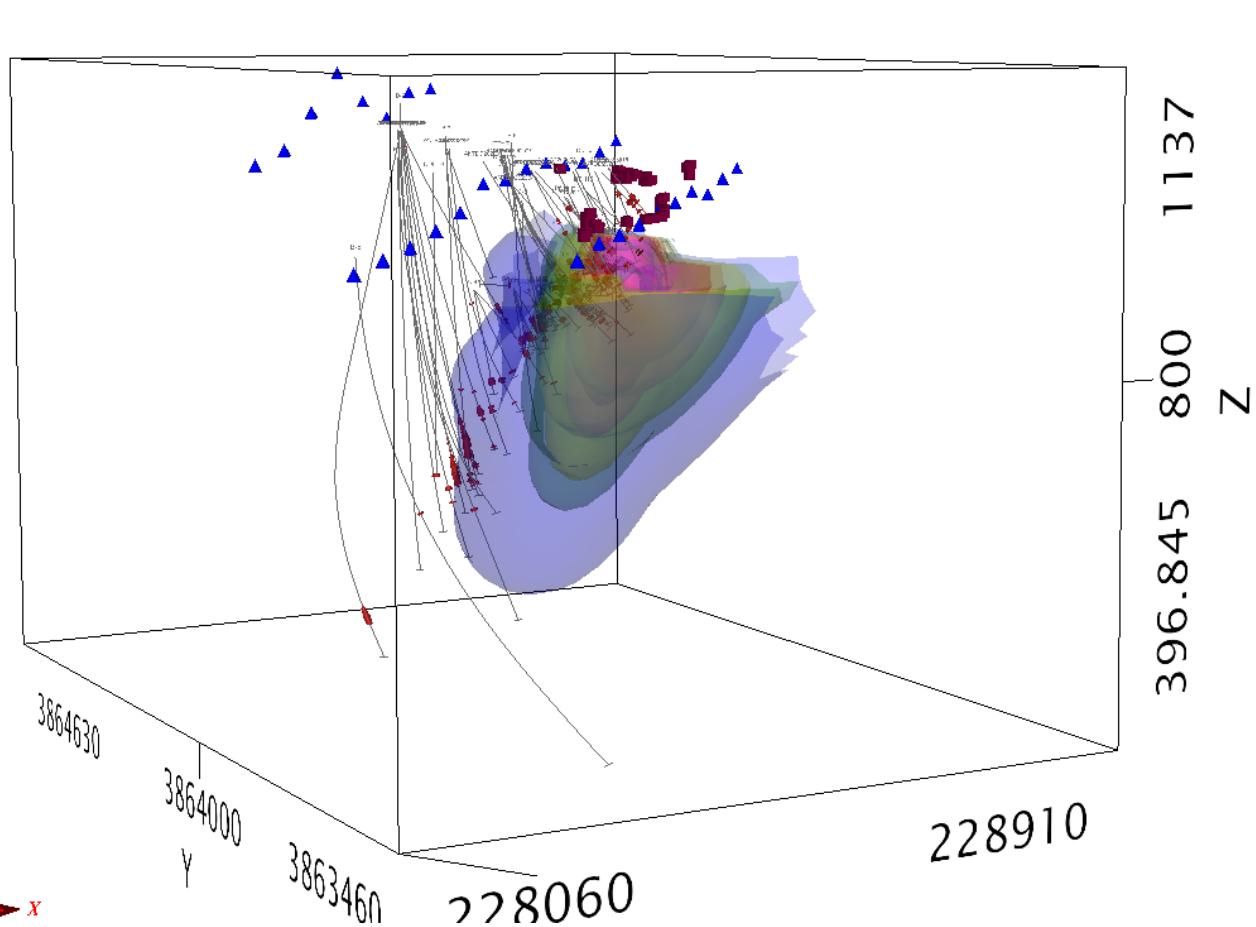


3D Resistivity Anomaly - Antler



Blue Triangles = Transmitter Locations
Dark Red Boxes = Gossans
Red = Drill Hole Cu Intercept

3D Chargeability Anomaly - Antler



Blue Triangles = Transmitter Locations
Dark Red Boxes = Gossans
Red = Drill Hole Cu Intercept

IP End Result – Early and Direct Success

ASX RELEASE
22 OCTOBER 2020

New World Resources
Limited

ABN: 23 108 456 444

ASX Code: NWC



STRONG +500m IP ANOMALY HIGHLIGHTS CONSIDERABLE POTENTIAL TO EXPAND THE ANTLER COPPER DEPOSIT

Initial drill testing underway to test strike extensions of the Antler Deposit to the south, with two rigs currently operating and a third rig being sourced

Highlights

- A **+500m-long, strong, chargeability anomaly** has been delineated directly over the Company's Antler Copper Deposit in Arizona, USA.
- NWC's drilling to date has focused primarily on the northern end of this IP anomaly, including on the fringes of the strong anomalism – returning exceptional thicknesses of high-grade VMS mineralisation.
- These results reinforce the considerable potential to extend the strike of the Antler Deposit at the southern end of the IP anomaly – where limited previous shallow drilling has intersected high-grade massive sulphide mineralisation in multiple holes.
- Initial drill testing of the IP anomalism has commenced, with a Reverse Circulation (RC) and a diamond core rig both currently operating at the Project.
- The Company is seeking a third drilling rig to expedite drill testing of its numerous high-quality targets.

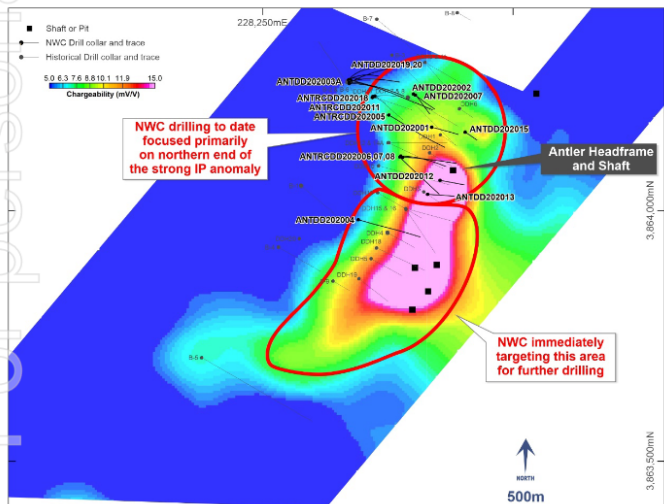
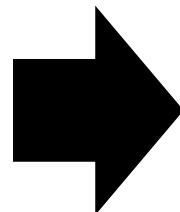


Figure 1. 100-metre depth slice of IP (chargeability) data acquired recently over the Antler Copper Deposit.



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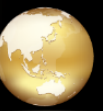
NEW THICK ZONE OF MINERALISATION INTERSECTED AT THE ANTLER COPPER DEPOSIT, USA

22m-thick mineralised interval, including 7.8m of massive and semi-massive sulphides, intersected in the first hole drilled to test strike extensions of the Antler Deposit

Highlights

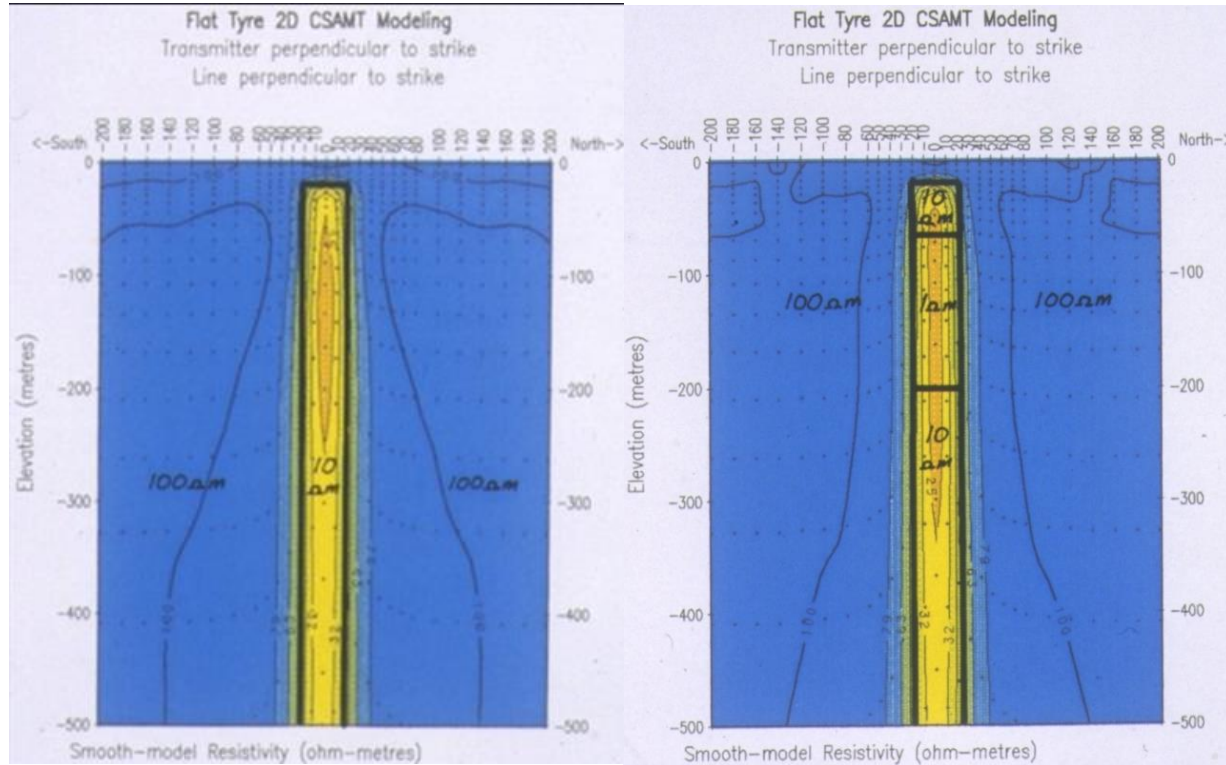
- 22m-thick mineralised interval, including 7.8m of massive and semi-massive sulphides, intersected in the first hole the Company has drilled to begin testing the southern extension of the Antler Deposit at depth (ANTDD202026).

Controlled Source Audio Magneto-Tellurics



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CONVENTIONAL



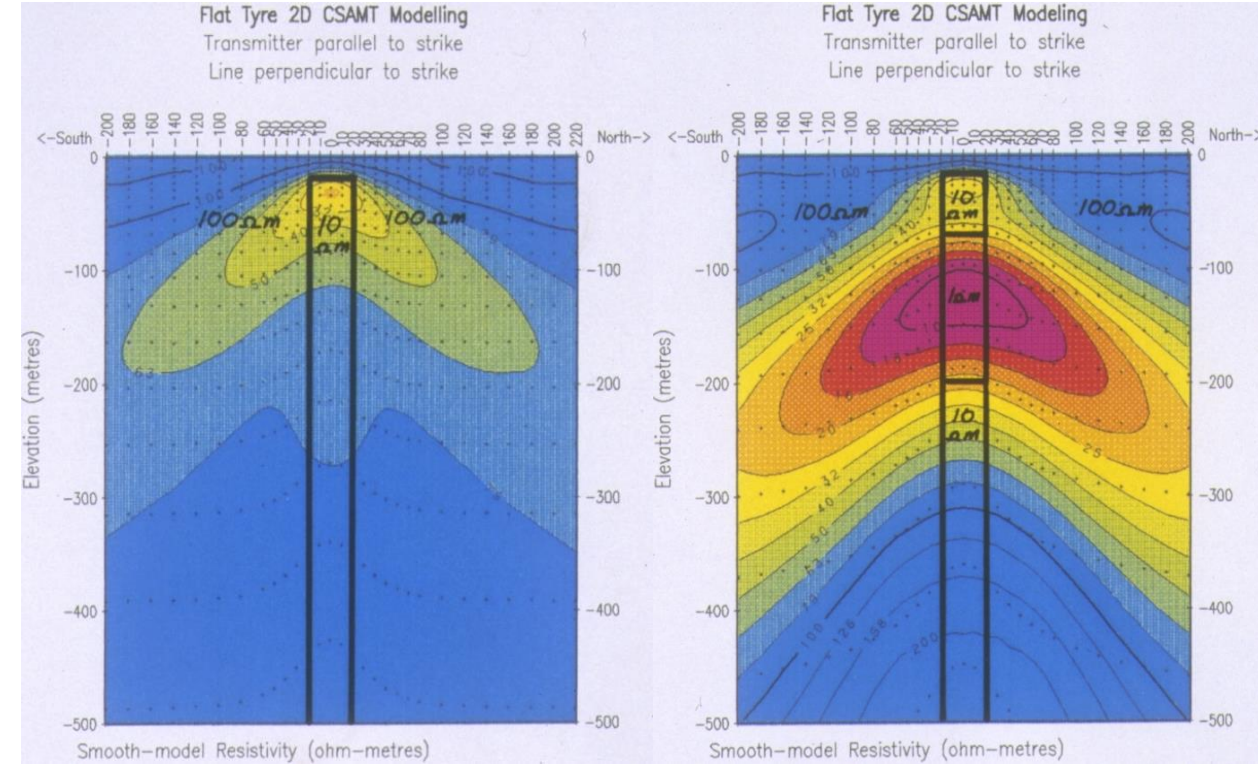
Configurations:

- E-field perpendicular to strike
- Tx perpendicular to strike
- Traverse perpendicular to strike

Observations:

- Sharp anomalies
- Good edge detection
- Insensitive to ore body

NON-CONVENTIONAL



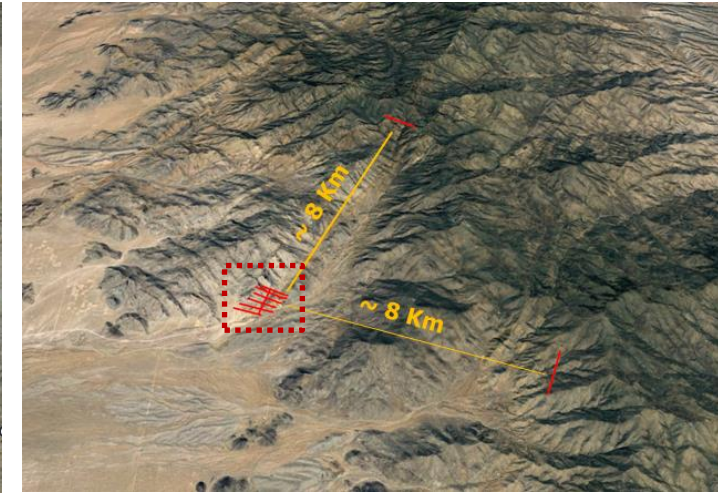
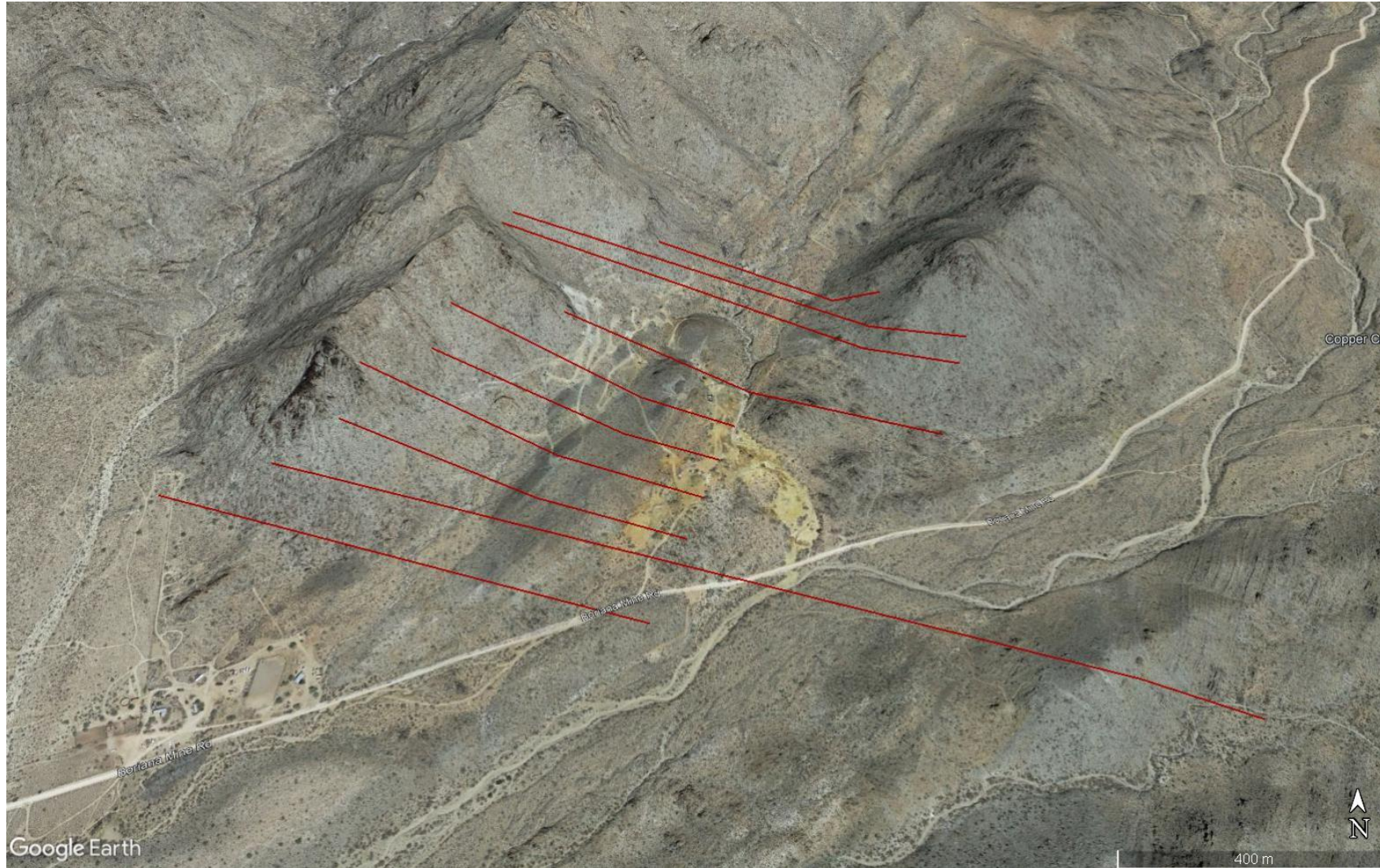
Configurations:

- E-field parallel to strike
- Tx parallel to strike
- Traverse perpendicular to strike

Observations:

- Depth to top clear
- Location of edges poor
- Sensitive to ore body

CSAMT – Survey Plan (non-conventional)

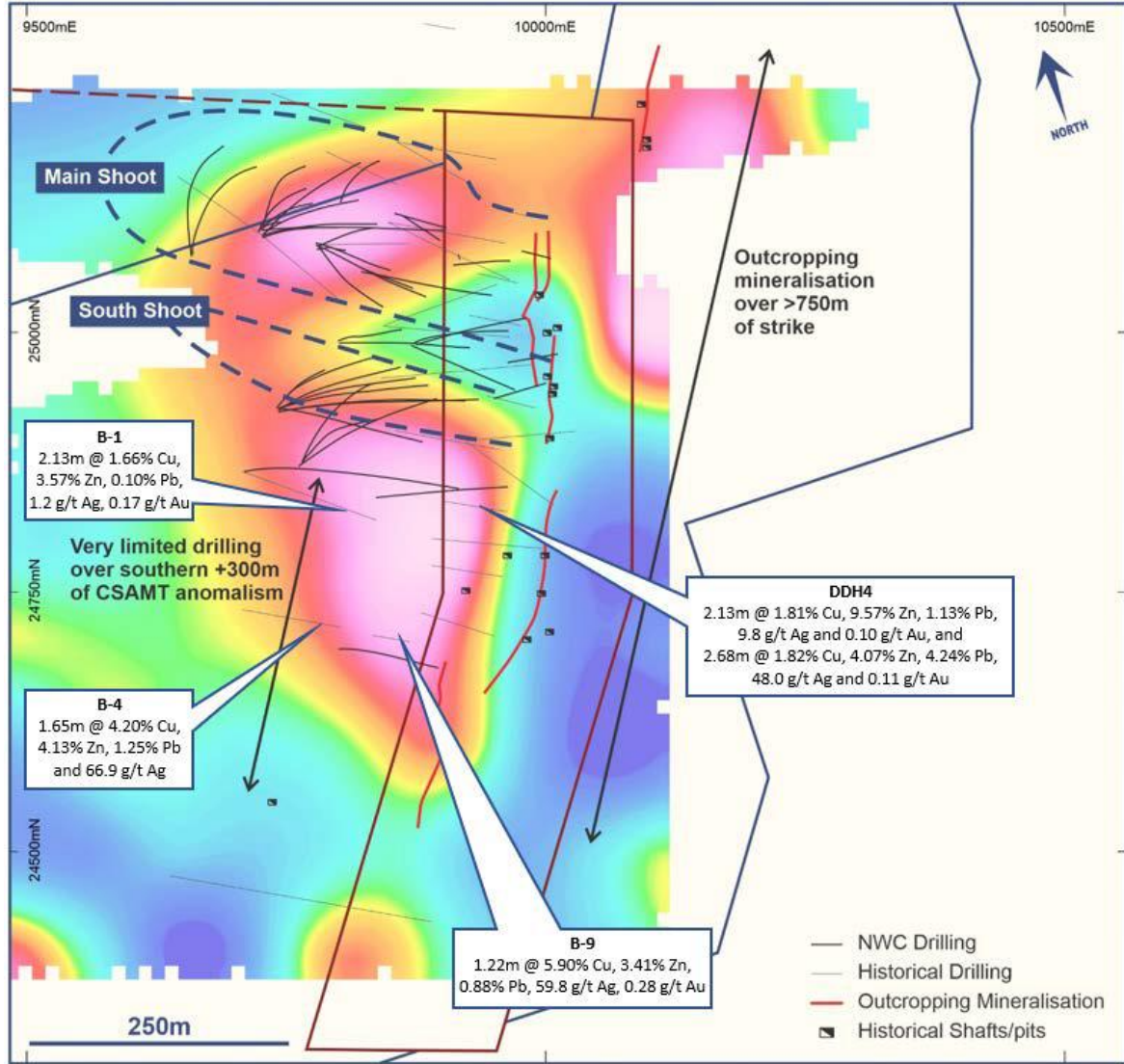


Survey Parameters

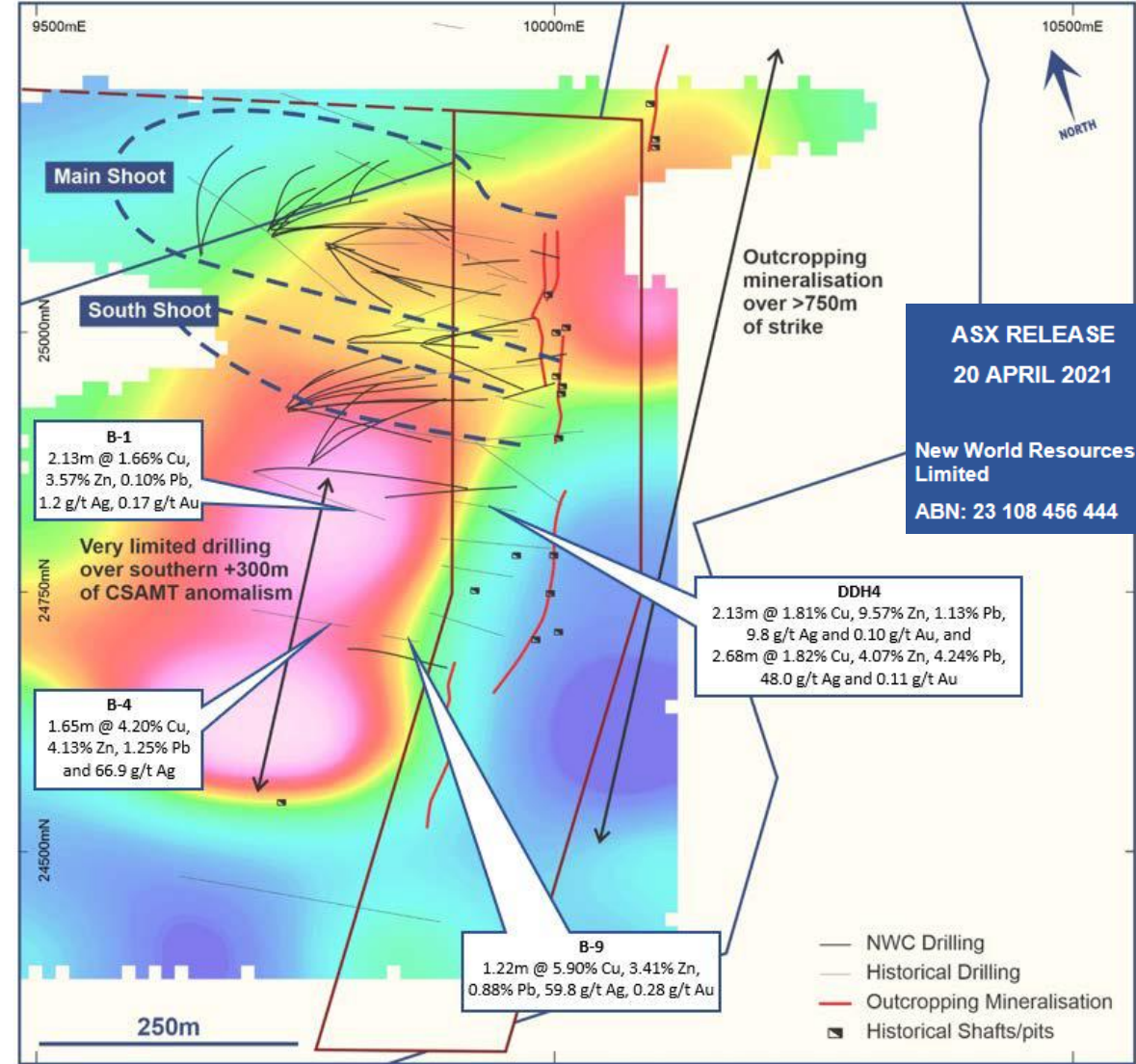
- Bipole source AMT data
- Tx length: 1498m
- Azimuth: 19.3°
- Transmitters: 2

- Rx dipole: 50m
- Ey dipole: 50m, oriented to south

CSAMT – Plan View

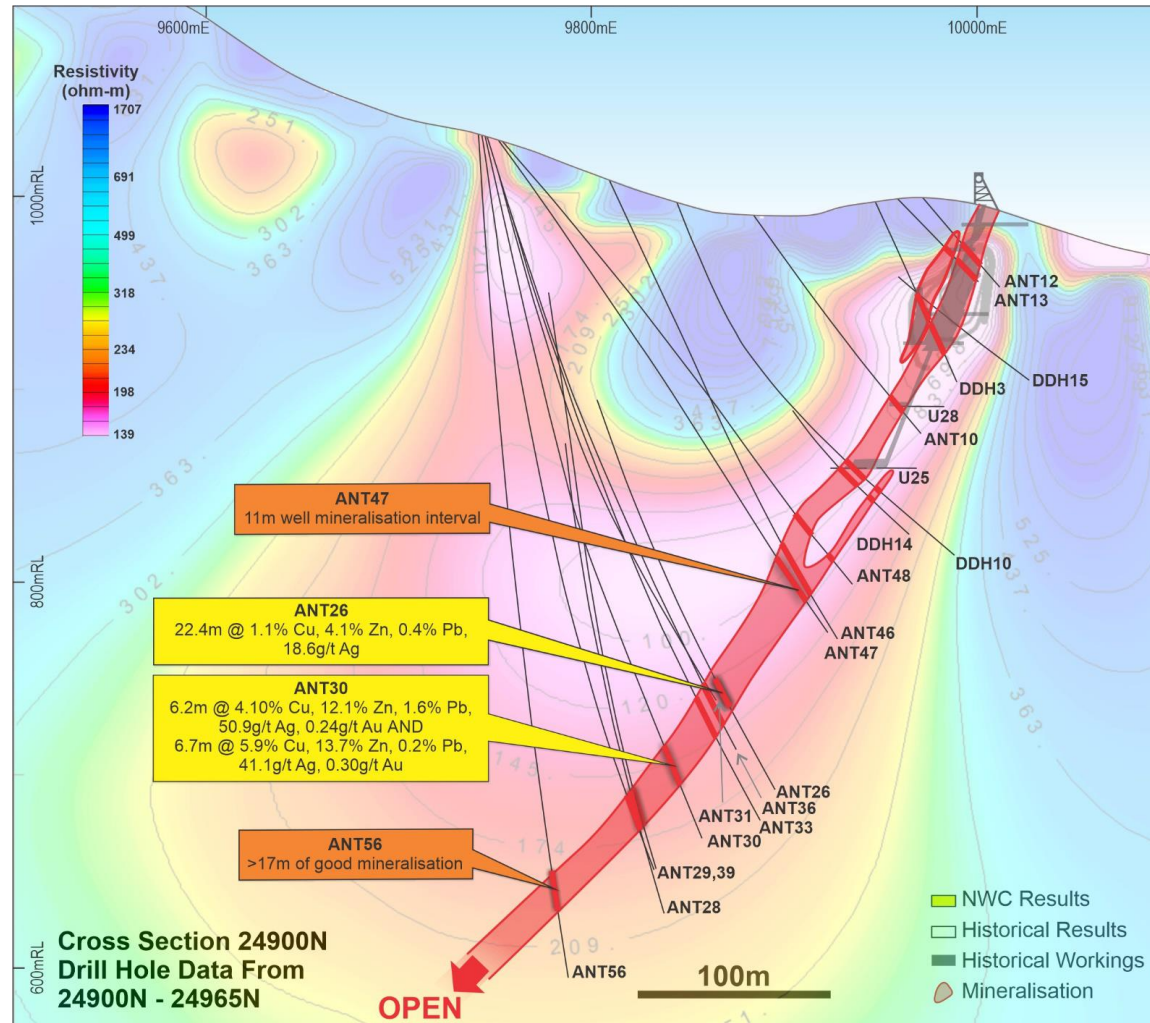


170m Depth



270m Depth

CSAMT – Cross-section



Cross-section of CSAMT from line 24900N – with drill holes and select significant assay results from recently discovered “South Shoot” projected onto the section (New World Resources 2021).



ANTLER COPPER DEPOSIT CONTINUES TO GROW WITH MORE THICK, HIGH-GRADE INTERCEPTS AT DEPTH

New assay results indicate that the strike length of the "South Shoot" increases with depth. Plus, very encouraging results received from further drilling testing the CSAMT geophysical anomaly at the southern end of the Antler Deposit

Highlights

- New assay results received for seven drill holes completed recently at the Antler Copper Project in Arizona, with high-grade mineralisation intersected in all holes.
- Thick, high-grade mineralisation intersected in the deepest holes drilled to date to test between the Main Shoot and South Shoot, with significant results including:
 - 16.1m @ 1.5% Cu, 7.0% Zn, 0.4% Pb, 16.2 g/t Ag and 0.14 g/t Au from 491.6m (16.1m @ 3.3% Cu-equivalent*) in ANT61; and
 - 2.9m @ 6.1% Cu, 12.1% Zn, 1.7% Pb, 66.0 g/t Ag and 0.46 g/t Au from 558.4m

ASX RELEASE
22 SEPTEMBER 2021

New World Resources
Limited
ABN: 23 108 456 444

ASX Code: NWC

DIRECTORS AND OFFICERS:

Richard Hill
Chairman
Mike Haynes
Managing Director/CEO
Tony Polglase
Non-Executive Director
Ian Cunningham
Company Secretary

CAPITAL STRUCTURE:

Assay results also received from five holes drilled over 100m of strike to test a >300m long CSAMT geophysical anomaly south of the South Shoot – with high-grade mineralisation intersected in all holes and results including:

- 2.7m @ 4.8% Cu, 2.3% Zn, 0.8% Pb, 55.3 g/t Ag and 0.24 g/t Au from 331.0m (2.7m @ 5.3% Cu-equivalent*) in ANT63

• Assay results from the CSAMT target area appear to improve with depth, with the

Cobalt-Copper
Project, Idaho, USA

Goodsprings
Copper-Cobalt Project,
Nevada, USA

Assay results from the CSAMT target area appear to improve with depth,

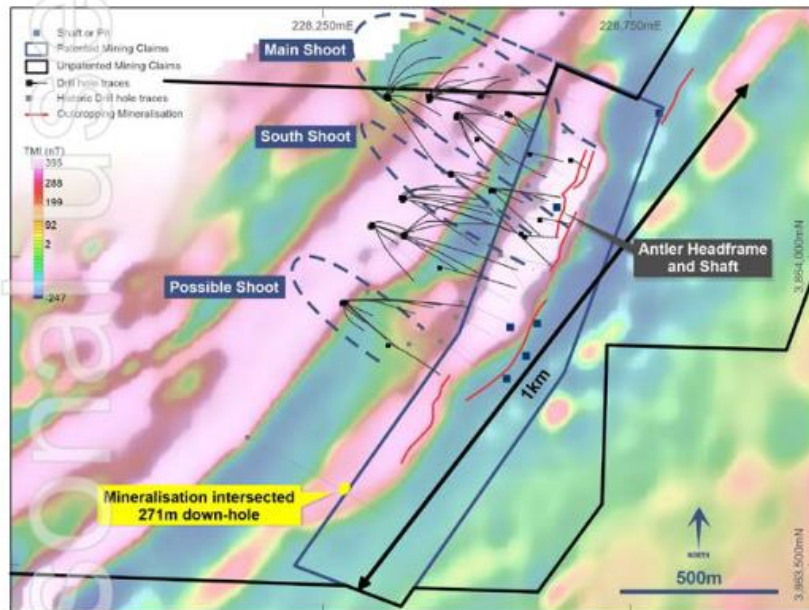
- Two rigs continue drilling at the Antler Project, with a third rig secured and scheduled to commence operations in mid-October.

*Refer to the detailed explanation of the assumptions and pricing underpinning the copper equivalent calculations on page 6 of this announcement and in Section 2 of the attached JORC Code Table (Appendix 2).

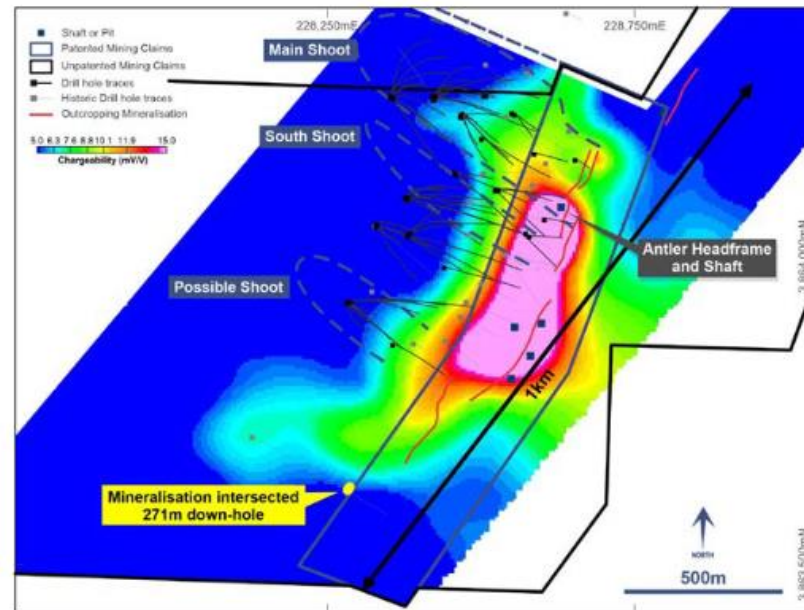
Ph: +61 9226 1356
Info@newworldres.com
www.newworldres.com

NWC Investor Presentation – October 2021

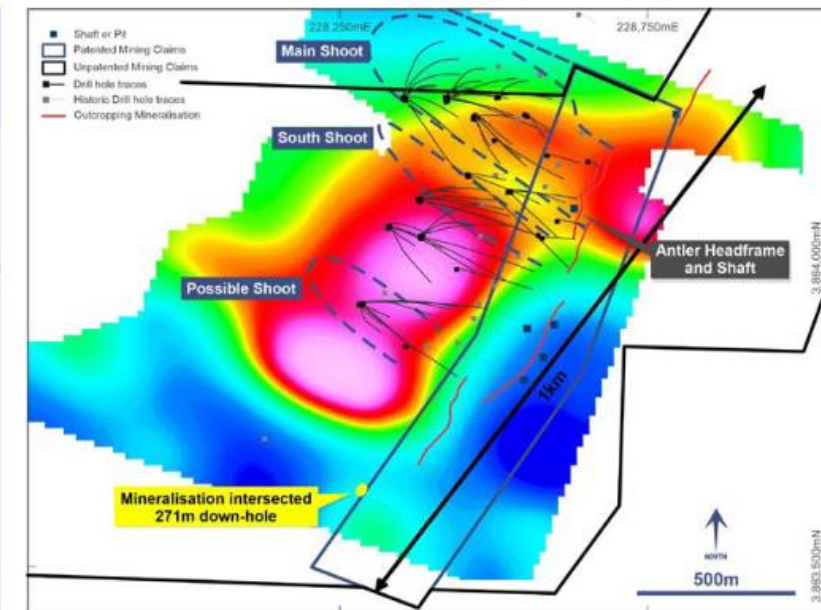
- Drilling to test the IP anomalism commenced in October 2020 – resulted directly in the discovery of the South Shoot
- Drilling to test the CSAMT anomalism commenced in April 2021 – resulted directly in the promising results from the new “Possible 3rd Shoot”



High-resolution magnetic data



100m depth slice of IP chargeability data

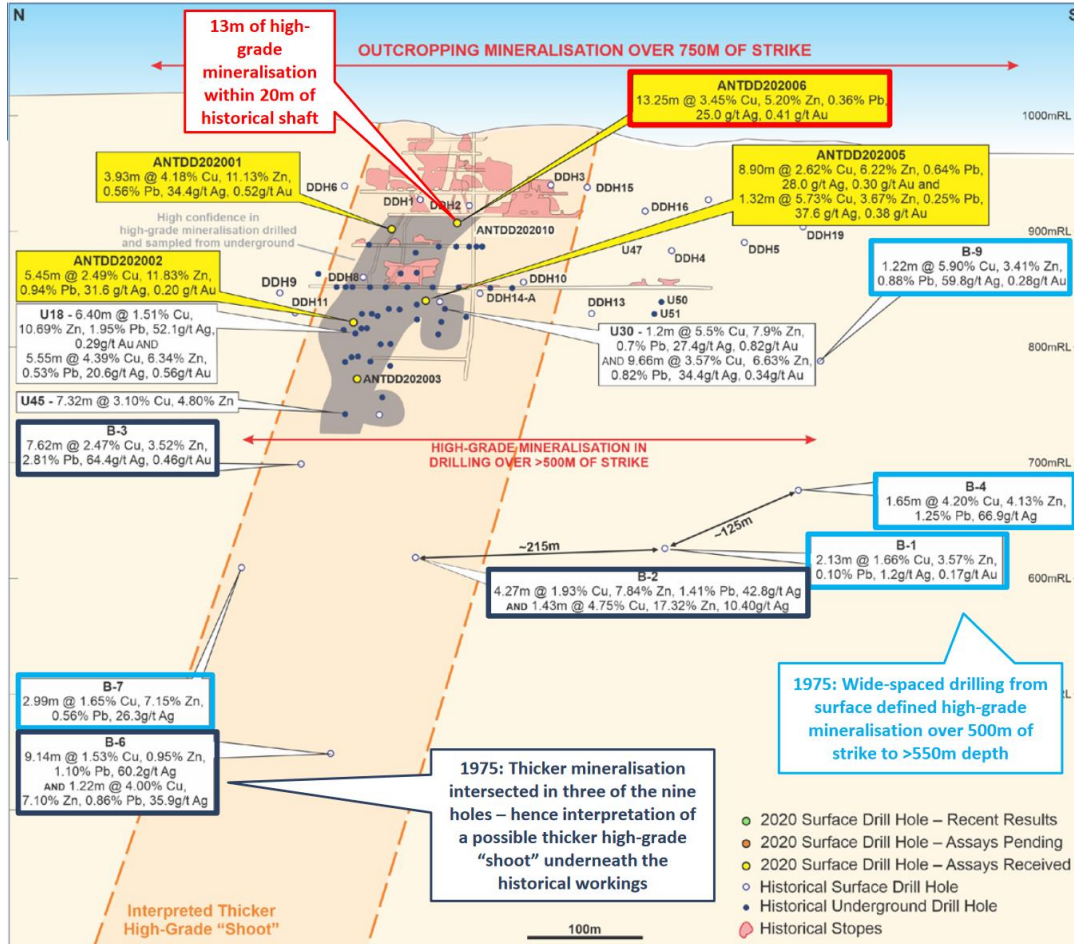


270m depth slice of CSAMT data

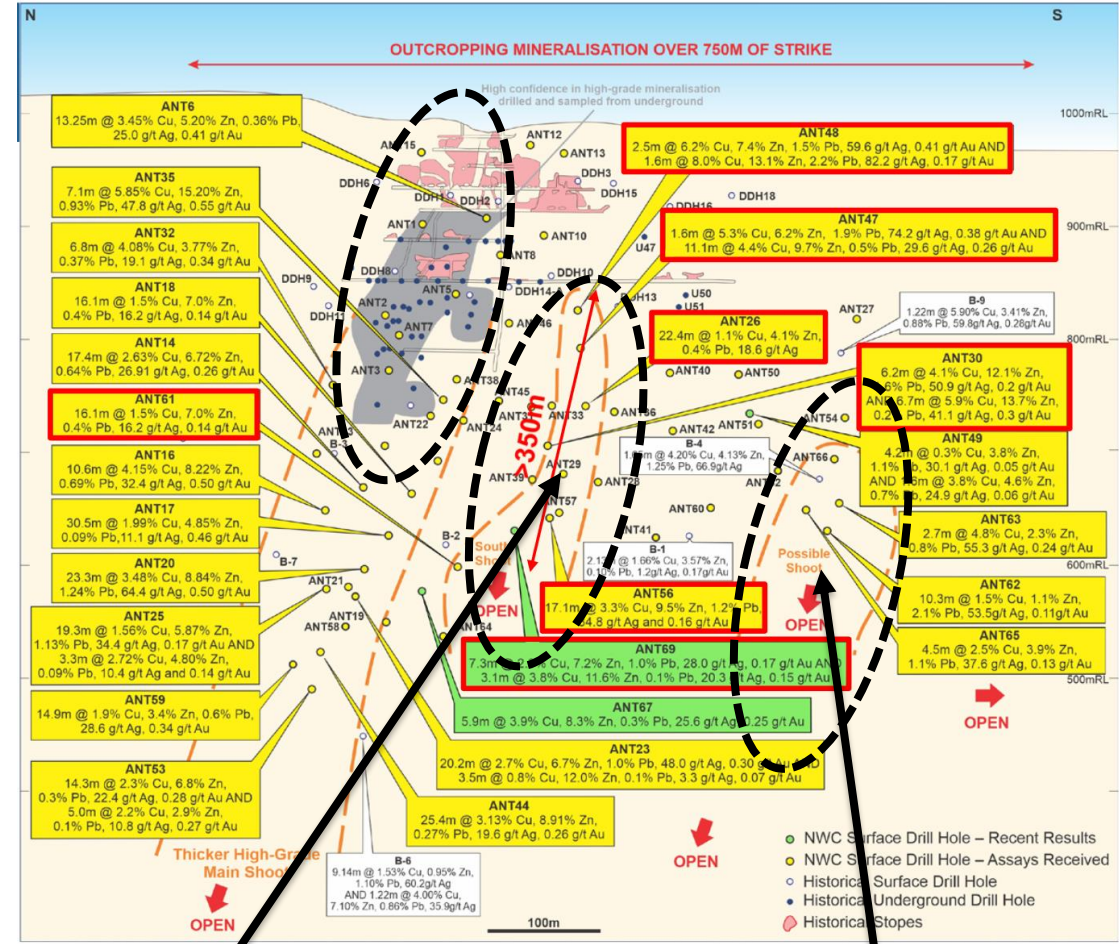
Antler Discovery Timeline



March 2020



November 2021



Discovered with IP

Discovered with CSAMT

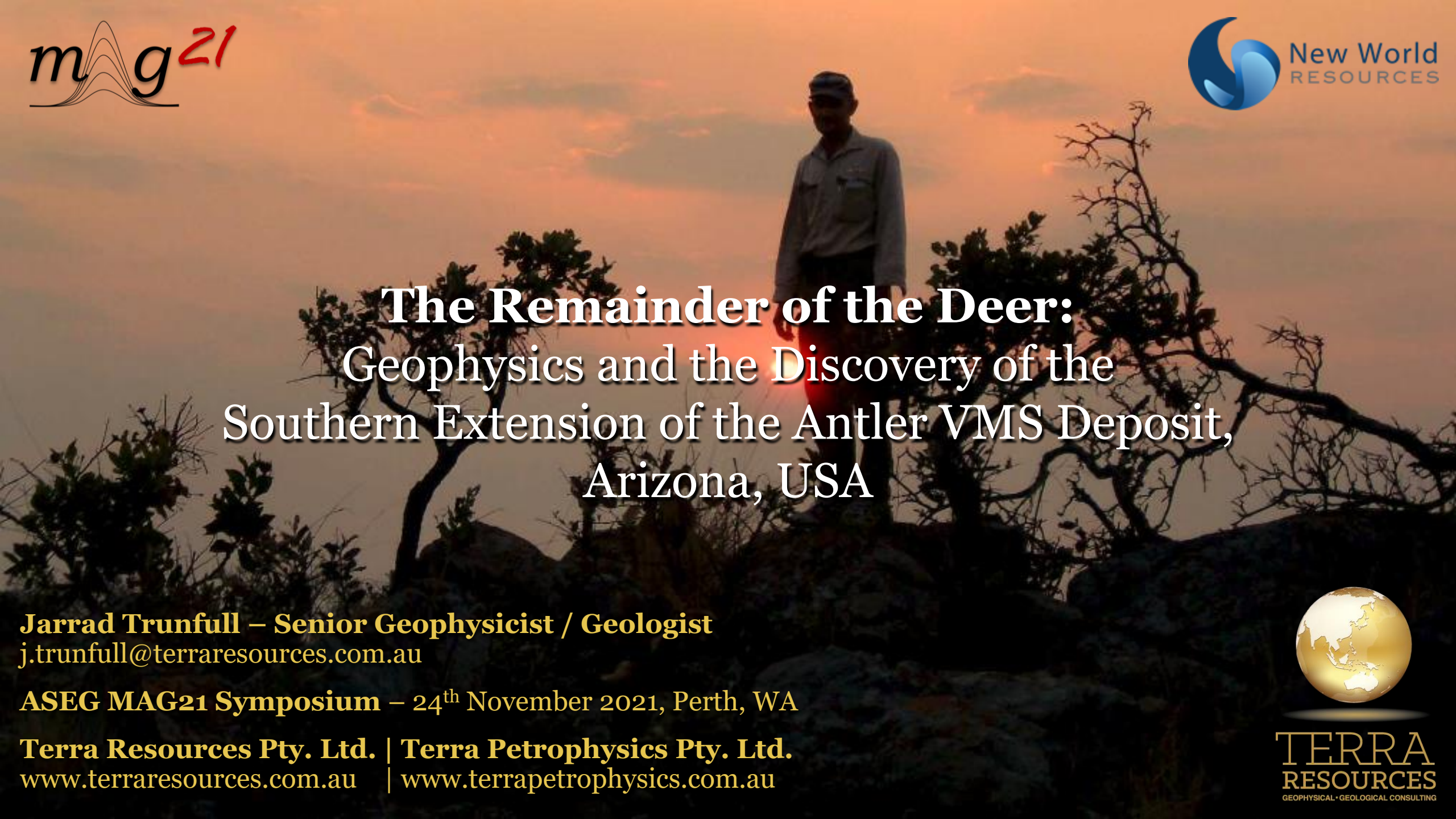
- Petrophysics: important to aid planning & interpretation.
- Magnetics: mapped lithology & structure + direct targeting.
- EM: no response.
- IP and CSAMT: strong response in both— provided fruitful targets.
- Gravity: not yet utilised, thin orebody and high relief prove challenging.

- A range of geophysical methods have been trialled at the Antler deposit.
- Geophysics has been integral to the discovery of extensions to the deposit.
- A 3DIP survey has defined anomalism which led to the discovery of a new, thick shoot of high-grade mineralisation.
- A broadside CSAMT survey was successful at defining the depth extent of this mineralised lens, plus a possible third shoot further to the south.

Acknowledgements



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- Barry Bourne, Darren Hunt, J.J. Leong, Fionnuala Campbell, Robert Black, Mila Markoski of Terra Resources.
- ASEG MAG21 Organising Committee



The Remainder of the Deer:
Geophysics and the Discovery of the
Southern Extension of the Antler VMS Deposit,
Arizona, USA

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ASEG MAG21 Symposium – 24th November 2021, Perth, WA

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