



Nova Bollinger

Geophysical Response

History

The discovery

Near Mine exploration

Characterization

Disclaimer: Not all I am about to tell is necessarily true

Acknowledgements

- Sirius Resources John Bartlett, Markus and team and asx releases
- Newexco Thanga Lachlan Ben et al
- GEM
- Vortex
- Search
- GAP
- Merlin
- Moombarriga Geoscience
- IGO
- Being in the right place at the right time

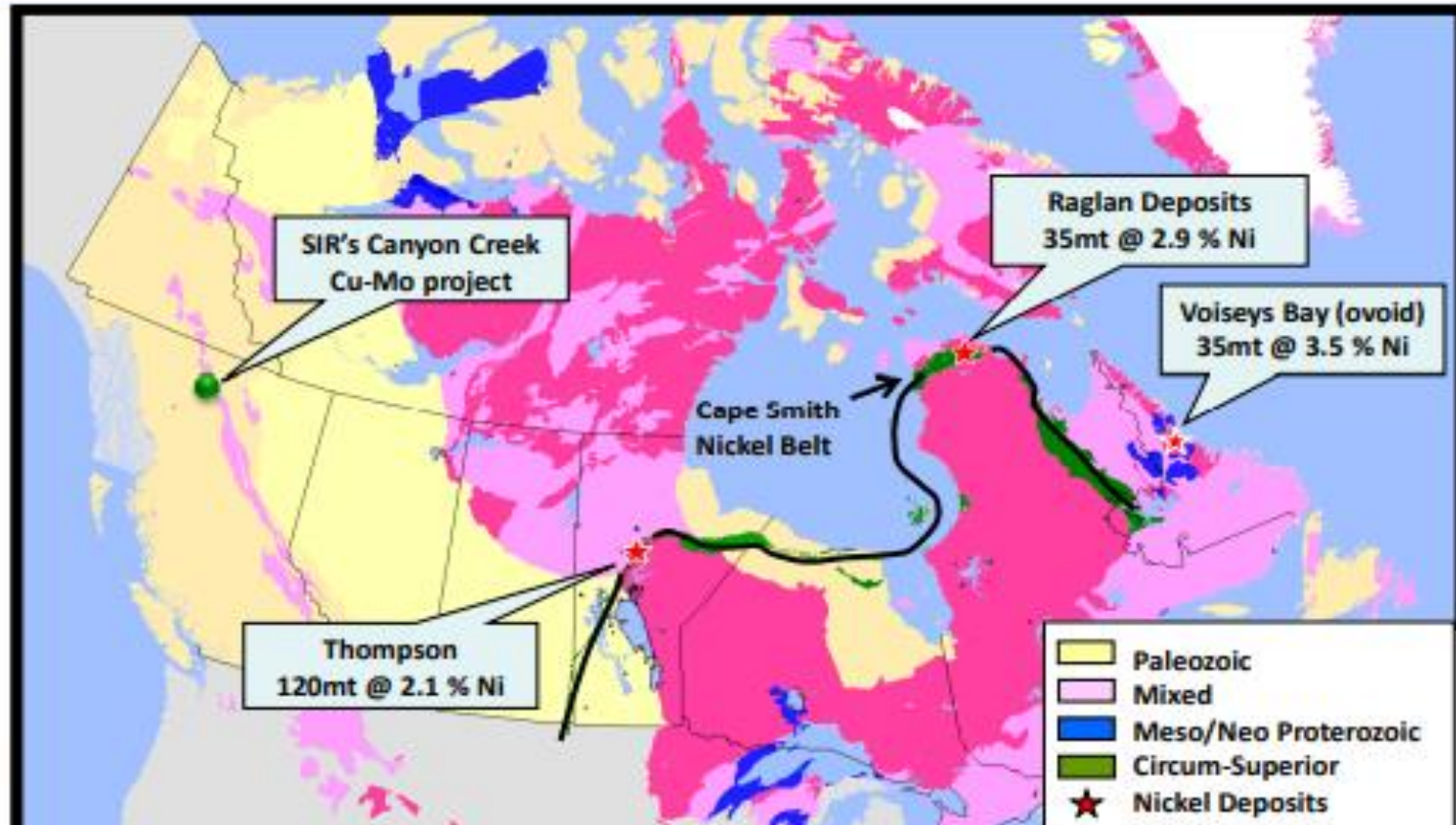
In The Beginning The Exploration Concept



• Intrusive mafic Hosted

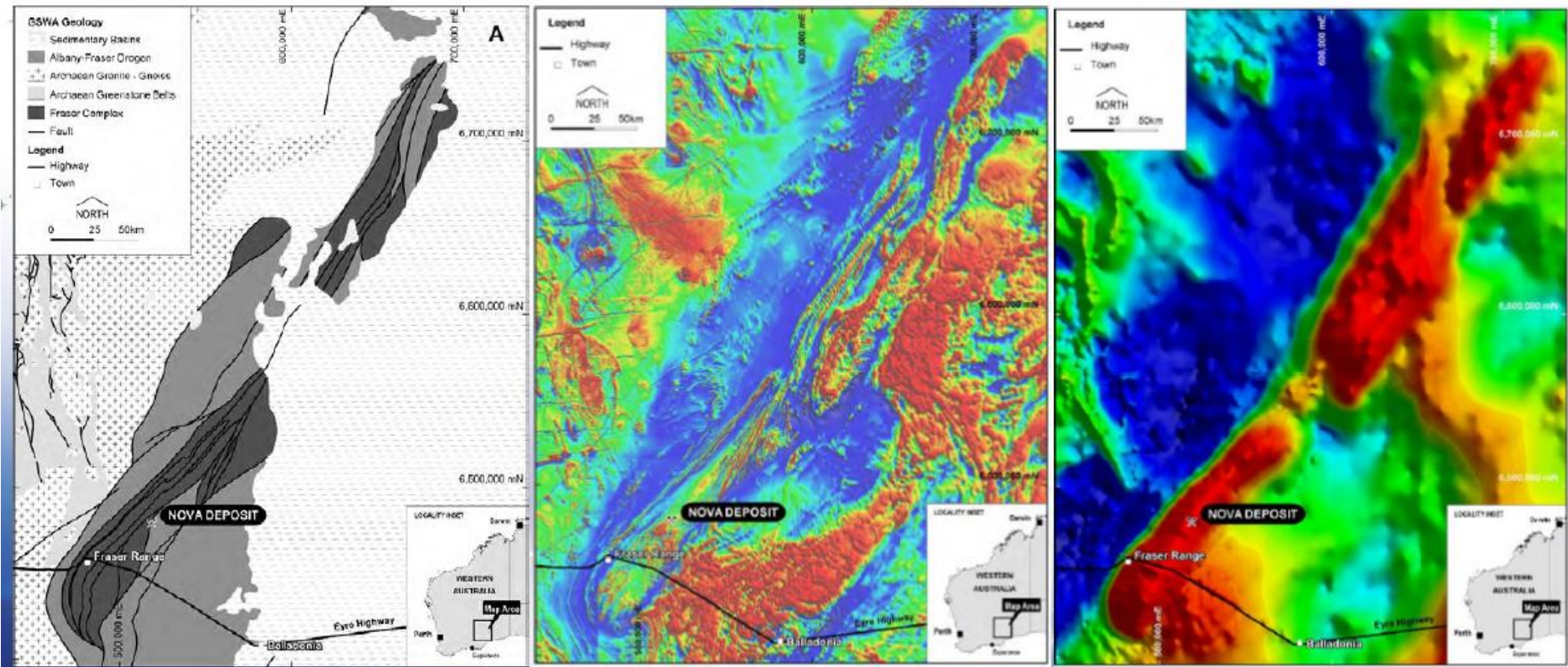
OUR CANADIAN COUSINS

- Three giant nickel mining centres
- Each one is a cluster of several deposits
- The circum-Superior belt fringes the Archaean craton
- Just like the Proterozoic Fraser Range Complex

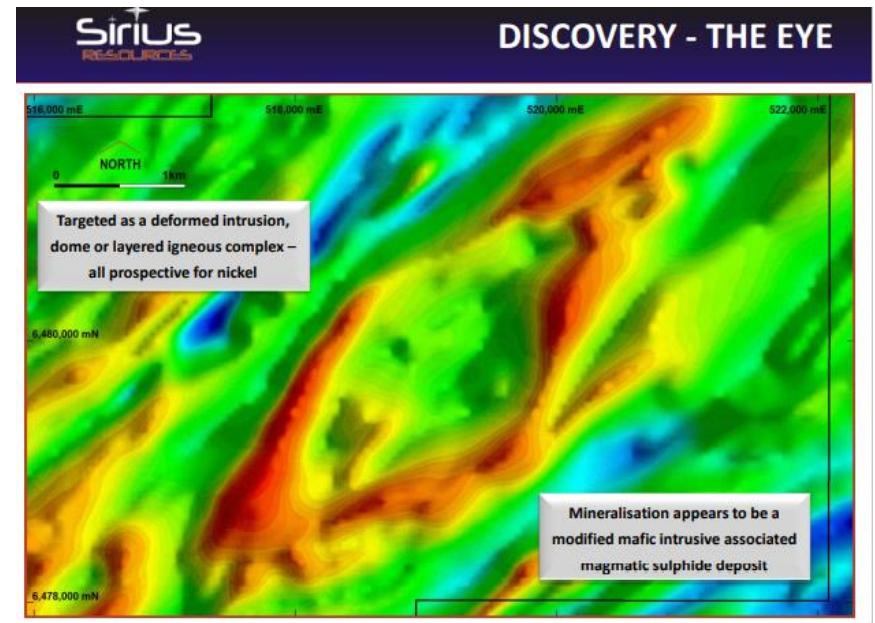
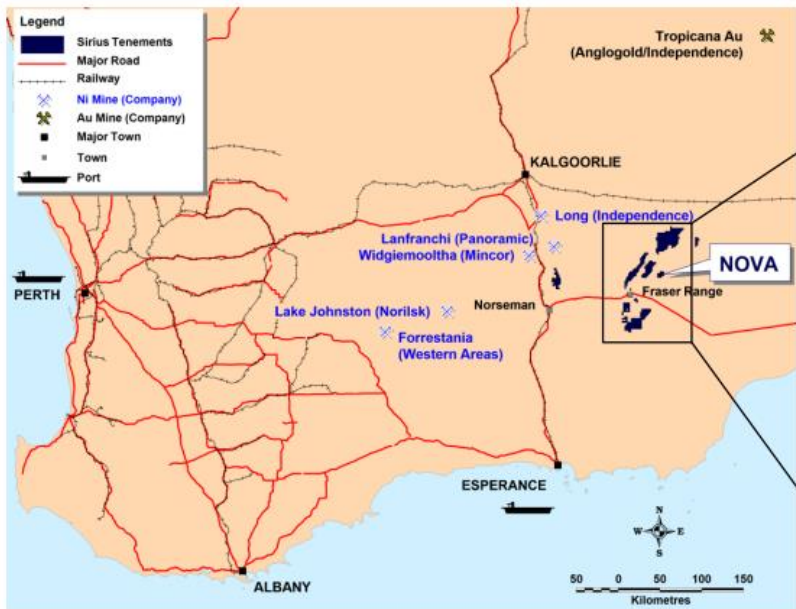


Discovery history – government data

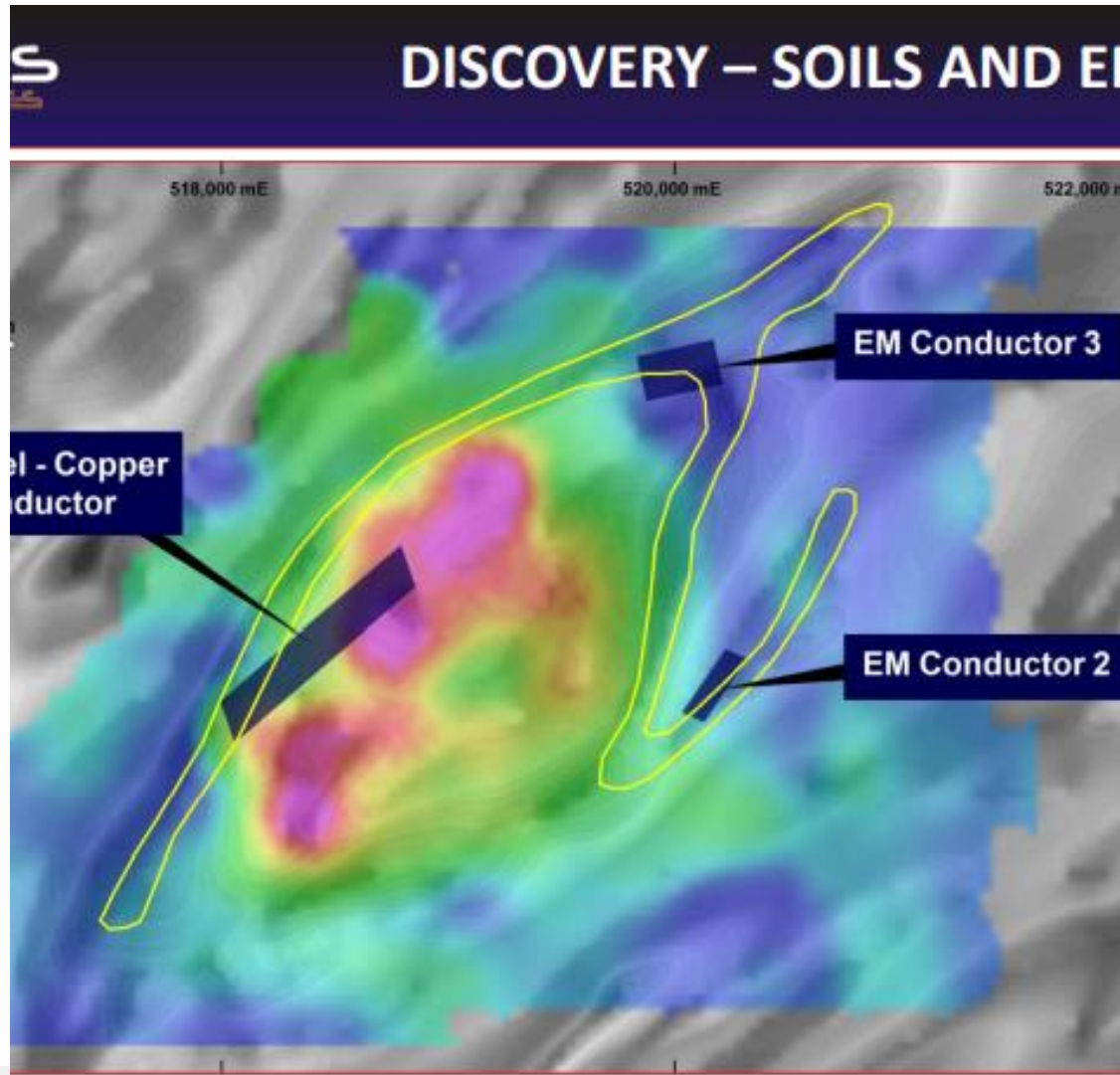
2009: the Government of Western Australia releases regional aeromagnetic and gravity surveys as part of its initiative to provide precompetitive geoscientific data to encourage exploration in new areas – this defines a distinct gravity ridge and enables recognition of geological tectonostratigraphy in a region devoid of outcrop and deeply weathered



Location place and time

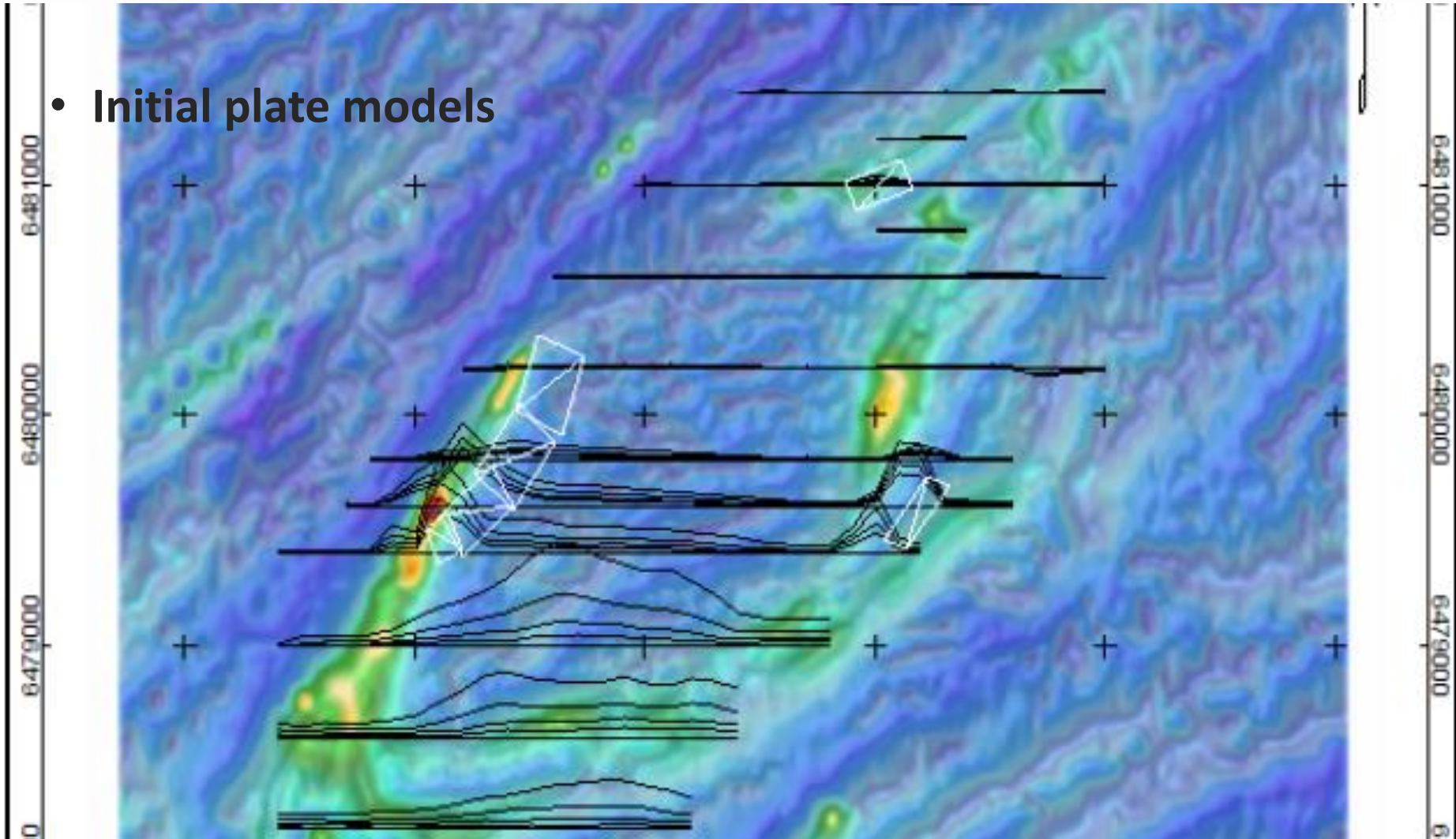


Very encouraging Ni GEOCHEM



Enter MLEM Late time stacked profiles over Gmags

- Initial plate models



Discovery ASX release showing initial rectangular plate(s) plunging north

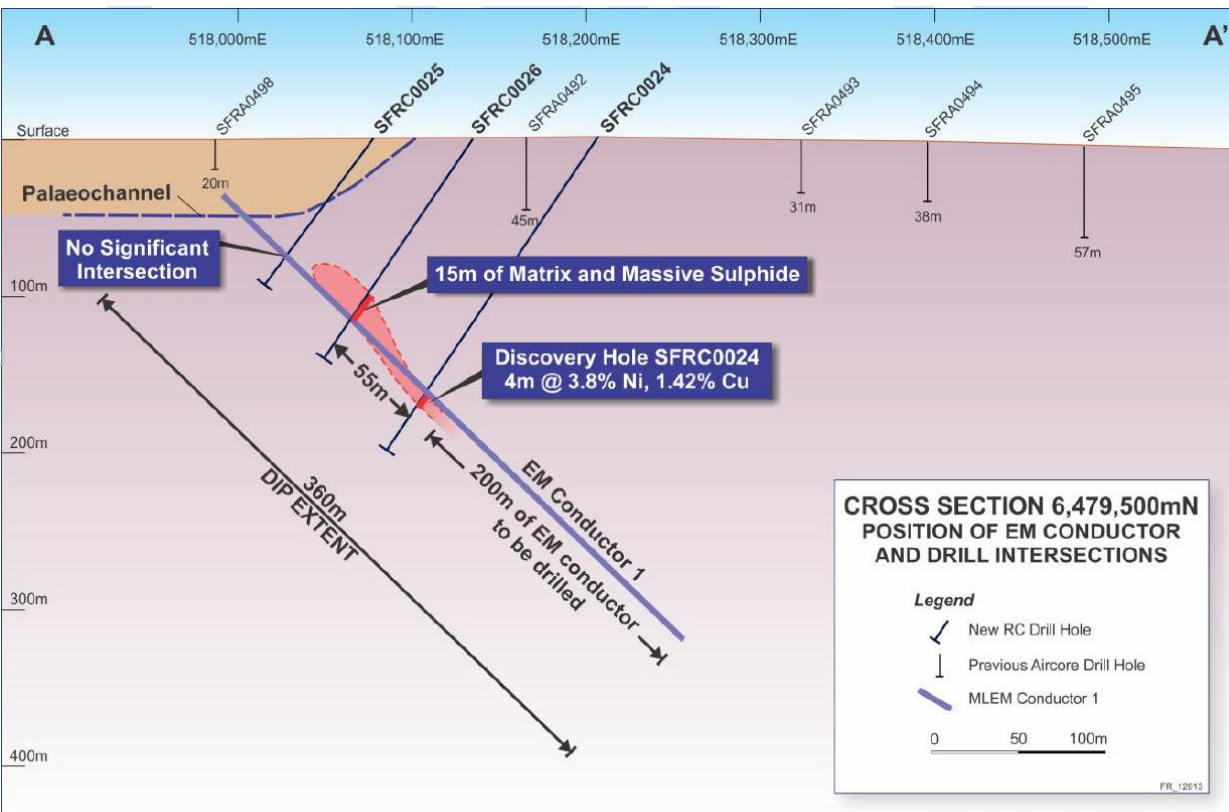


Figure 2. Cross section 6479500N - the uppermost tip of EM conductor 1 showing intersections relative to the extent of conductor.

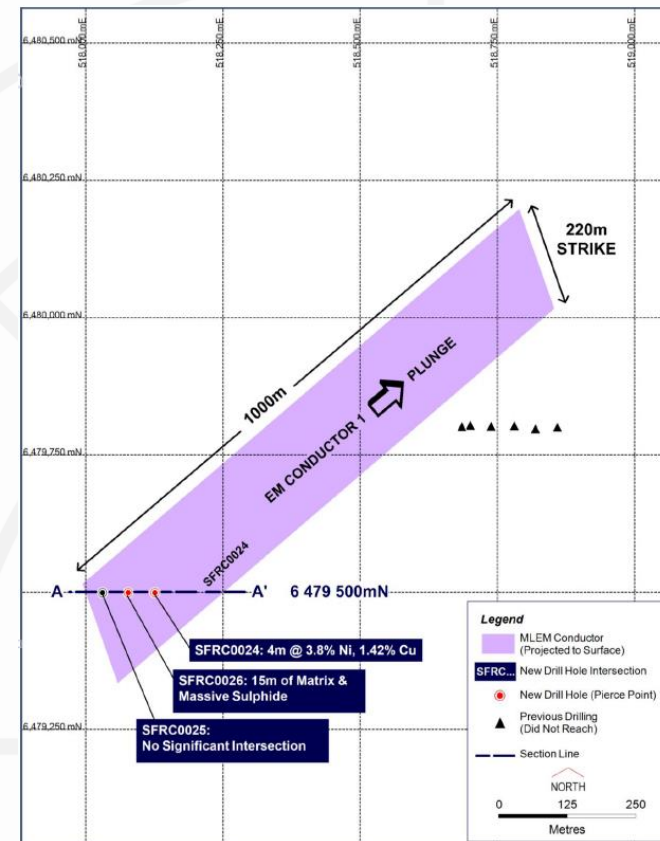
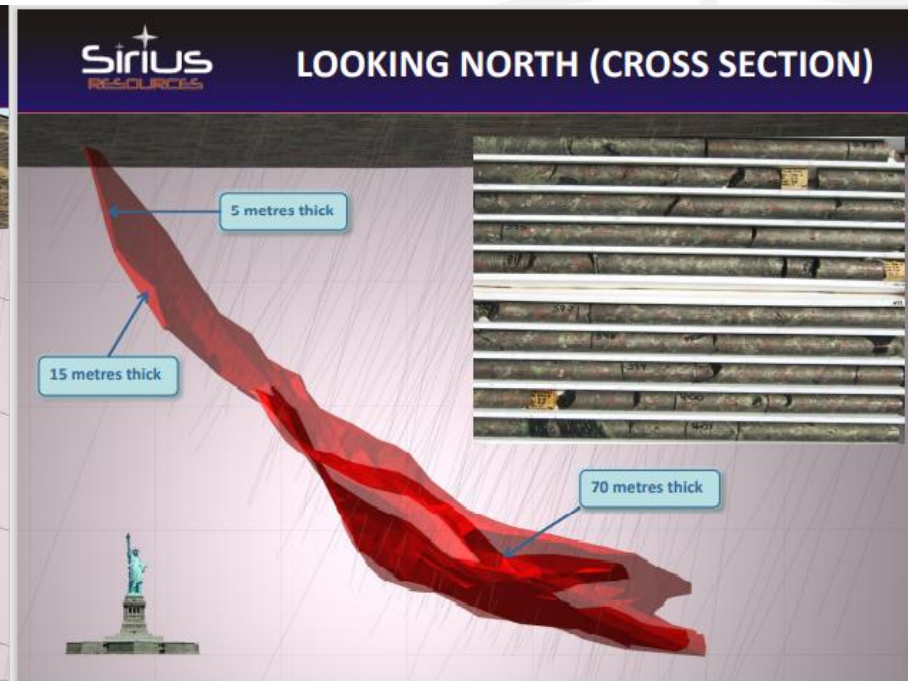
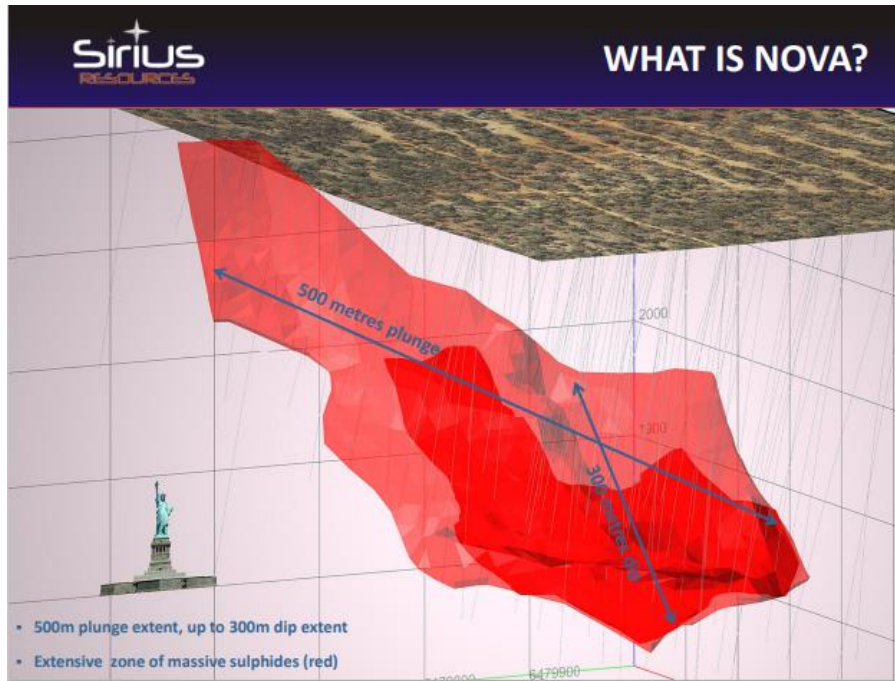
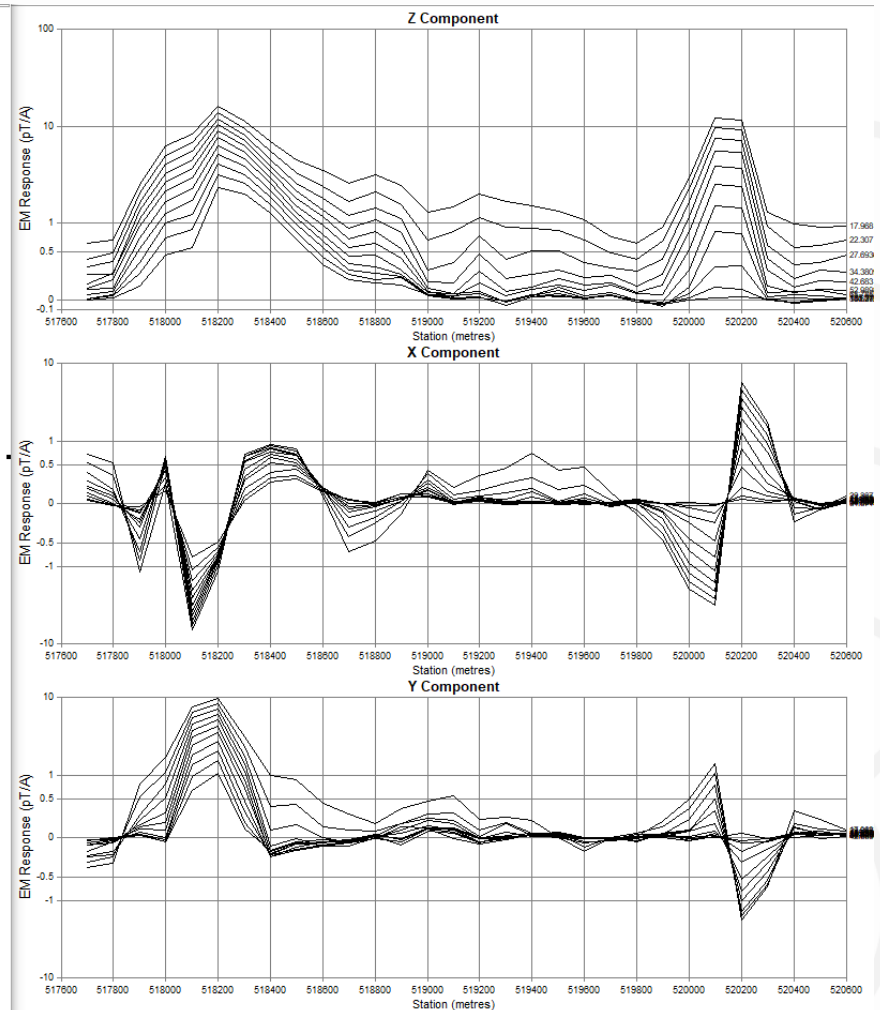
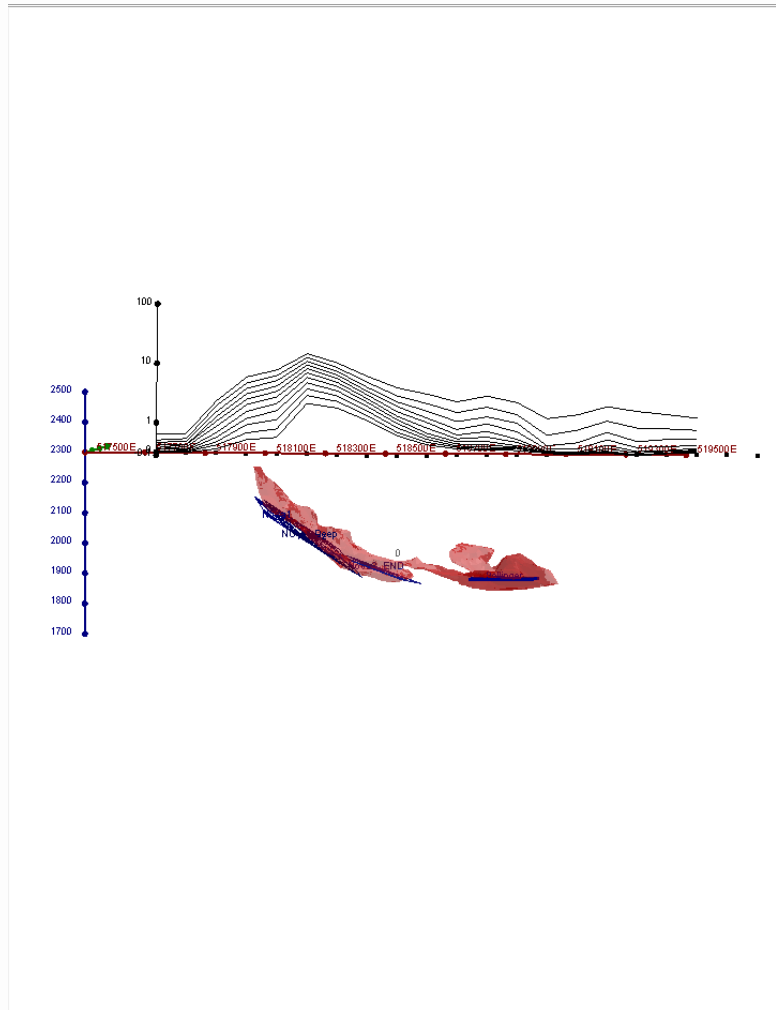


Figure 3. Plan projection of EM conductor 1 (Nova) showing location of discovery hole SFRC0024 and step-out hole SFRC0026.

The ORE BODY(s)



MLEM 200m loop Fluxgate 6479600N (1Hz 17ms onward)



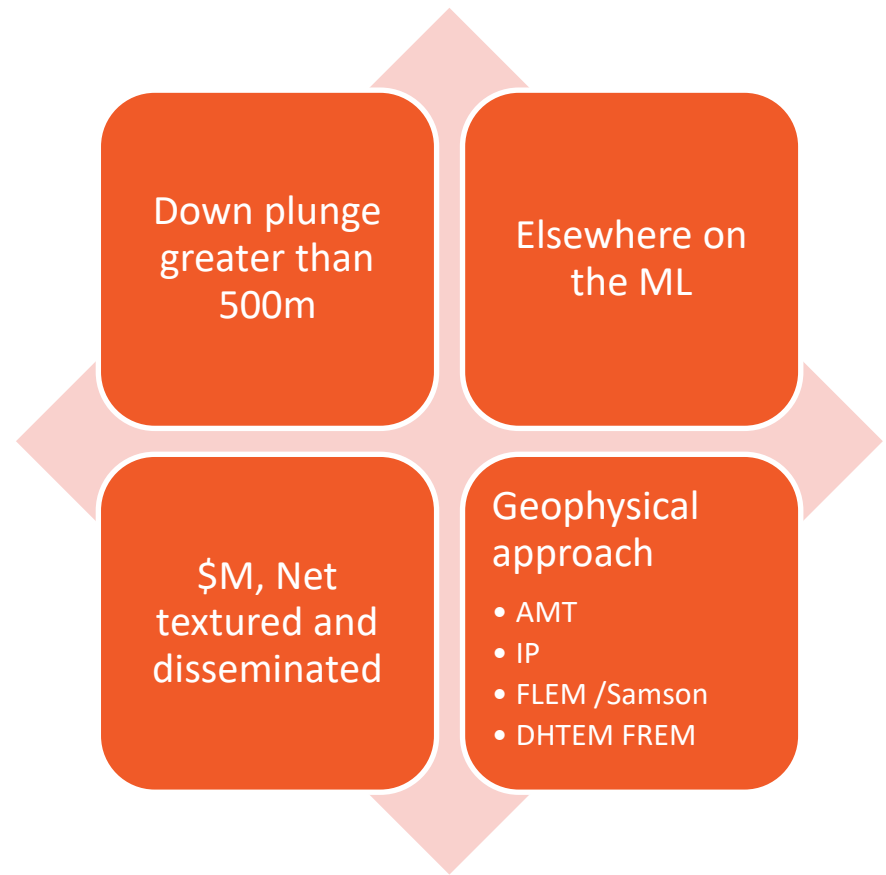
Recap and questions for thought

- In the right place at the right time (mafic intrusive 1.3Ga)
- Geochem Soils/ AC. Good question would be should Sirius have drilled the Geochem anomaly? What would have been the outcome?
- MLEM rapid recon 100X400m line spacing not too conductive(20S) OB 1 hz base frequency little spurious response.
- How would AEM have gone?
- MLEM models surprisingly accurate well supplemented with dthem.
- Good communication: the target was well defined the OB was well defined the depth of investigation required was well defined. This made planning possible and supervision of survey easy. Why didn't use 200X400m.
- OK what next?



Establish true worth of project

Near Mine Exploration



FLEM Near Mine

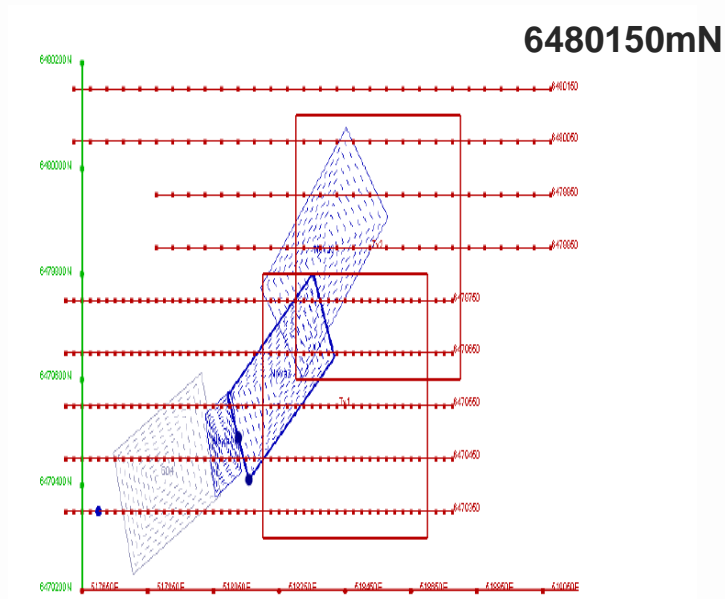


Figure 1: Plan

2012 FLEM status with original modelled plates

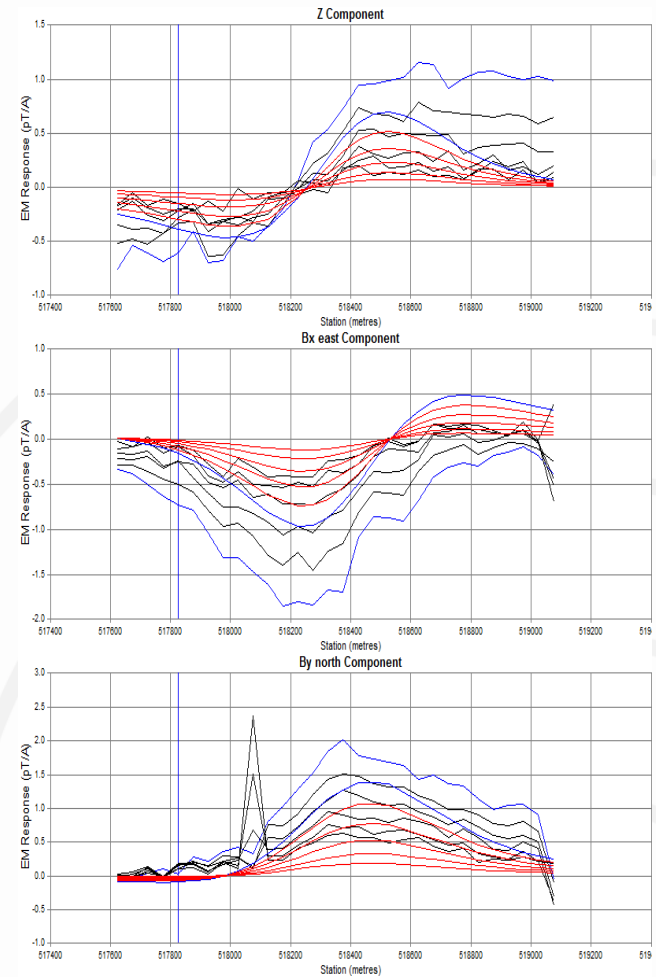


Figure 4: 6480150mN

Favourite Slide FLEM with distant poorly coupled loop note the pT/A

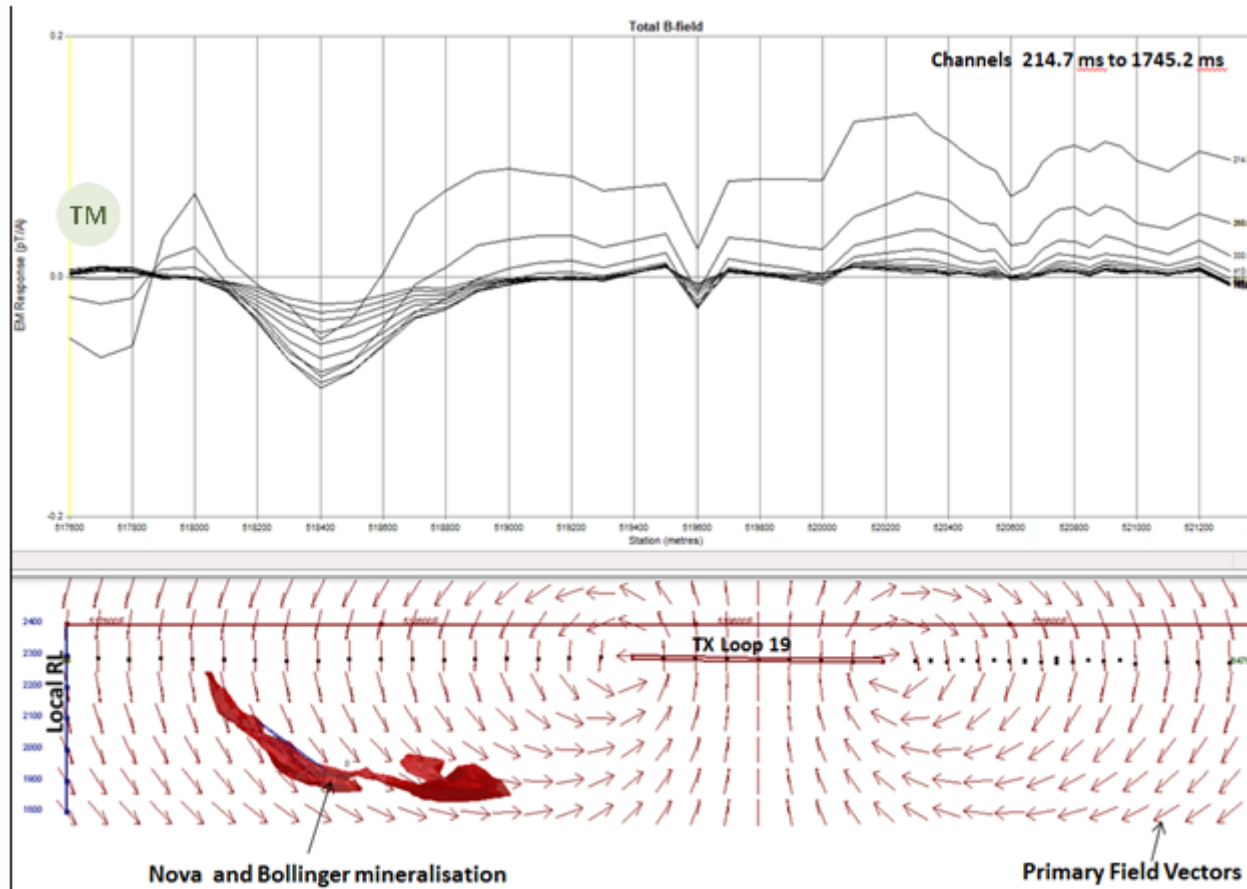
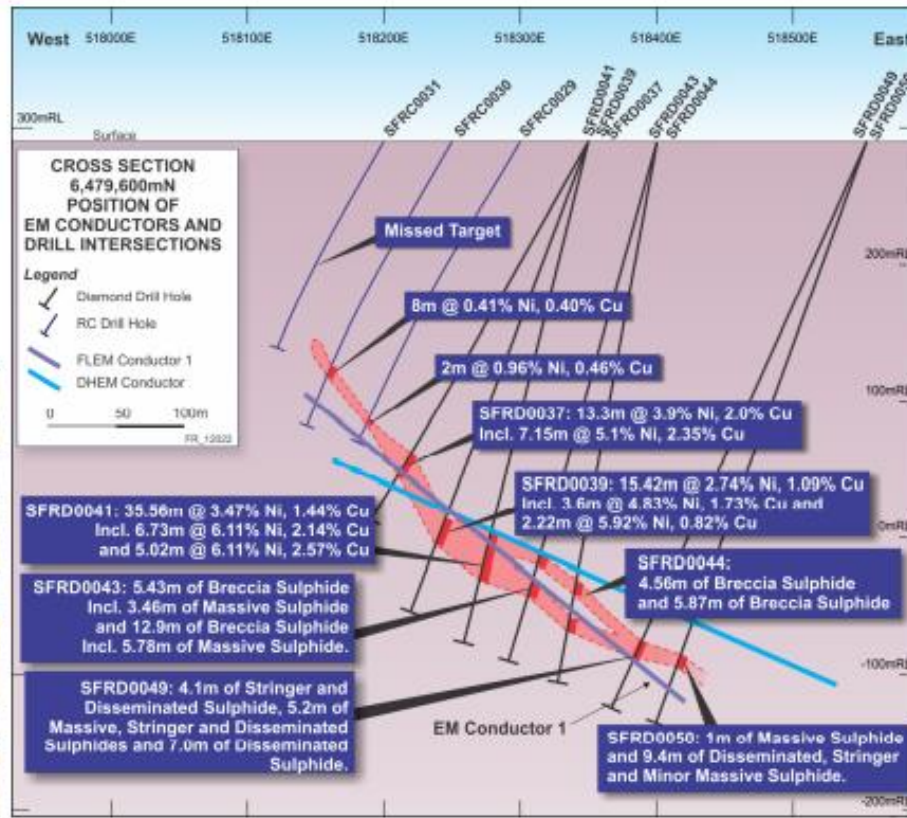
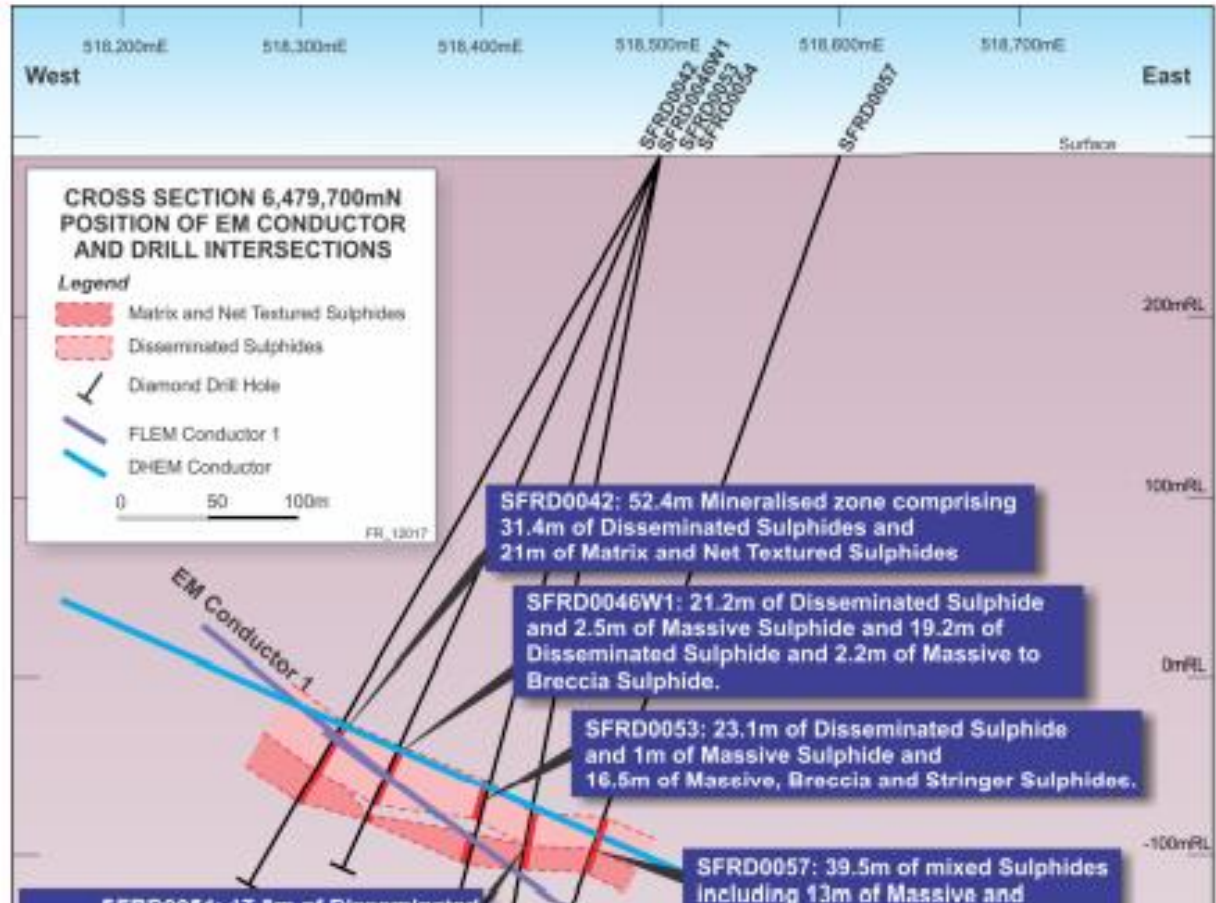
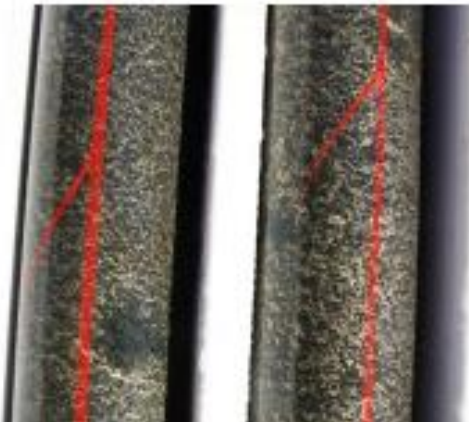


Figure 24: Loop 19 Line 6479625. The linear Total-Field response is shown in the top panel: channels 25 to 35 (214 ms to 1745 ms). Primary field vectors show poor (sub-parallel) coupling to both Nova and Bollinger mineralisation (view north). Despite poor coupling, clear response is only associated with Nova.

- Thick zones of massive and breccia textured sulphides intersected - eg, 35.56m @ 3.47% Ni, 1.44% Cu
- Located 100m north (150m down plunge) from discovery holes
- >300m dip extent defined



- Thick zones of massive, matrix, net textured and disseminated sulphides intersected
- Located 200m north (300m down plunge) from discovery holes
- >200m dip extent defined and open up dip and down dip



FLEM closes Northern extent of down plunge.

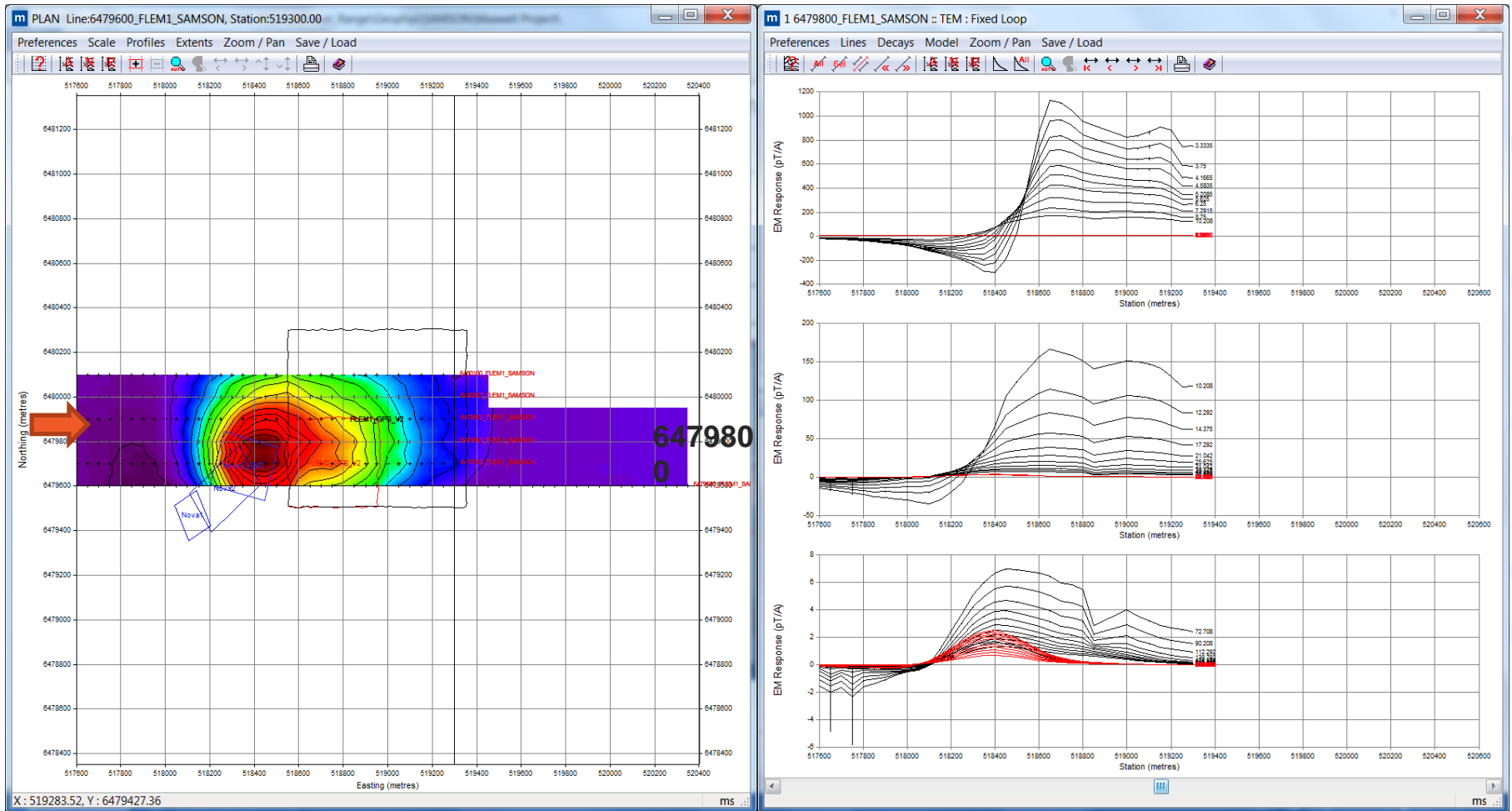
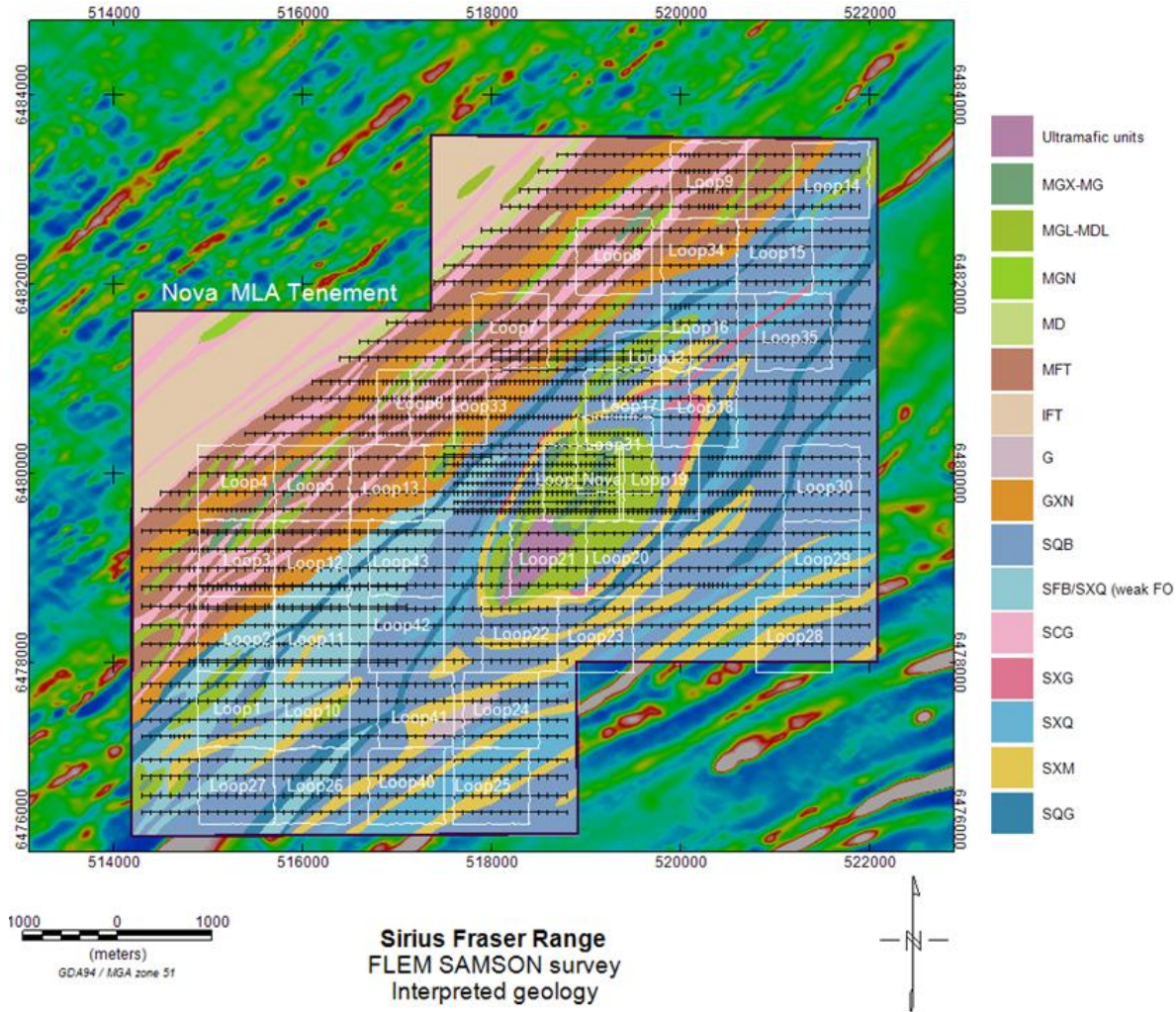
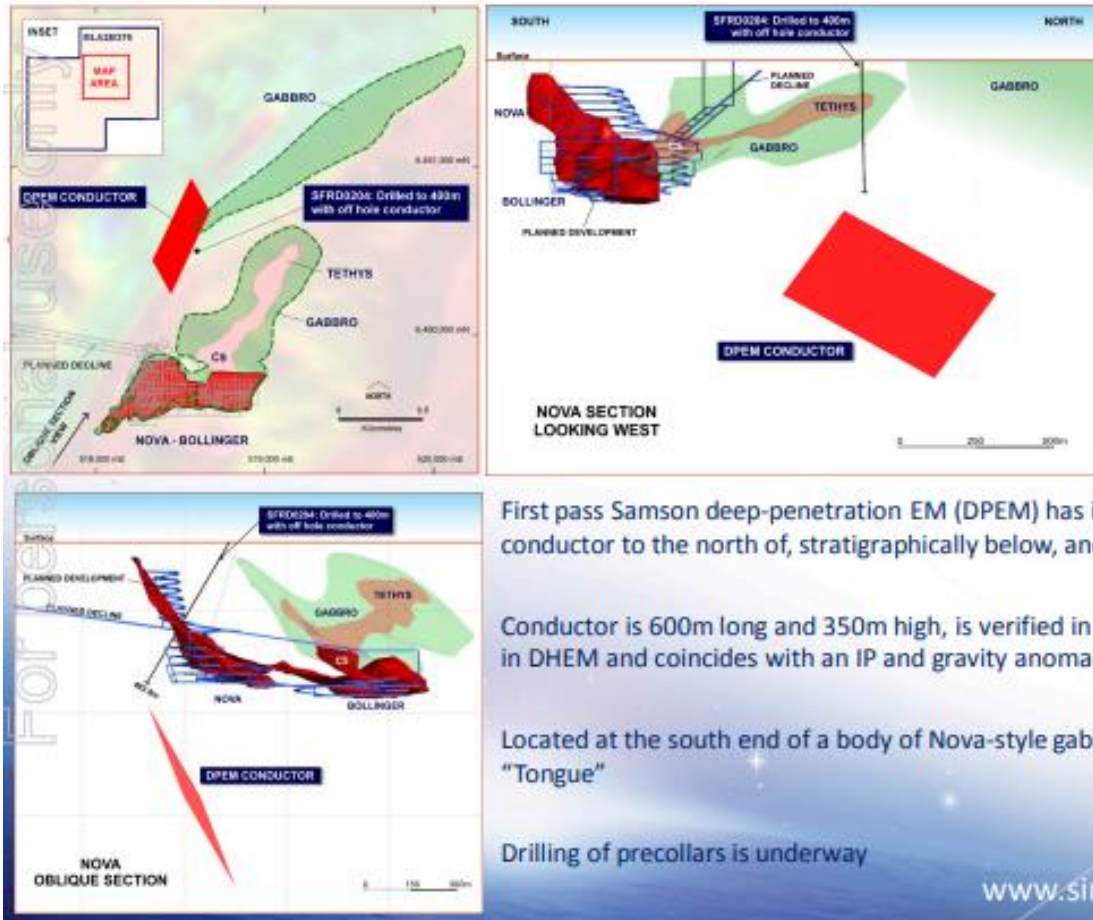


Figure 7: Samson FLEM1 2013 showing stations and linear coloured latest time channel 1700ms image. 6479800

SAMSON FLEM survey coverage



Near mine exploration - new EM conductor (cont)



First pass Samson deep-penetration EM (DPEM) has identified a large conductor to the north of, stratigraphically below, and down plunge of Nova

Conductor is 600m long and 350m high, is verified in 2 Samson EM setups, in DHEM and coincides with an IP and gravity anomaly

Located at the south end of a body of Nova-style gabbro known as the "Tongue"

Drilling of precollars is underway

www.siriusresources.com.au

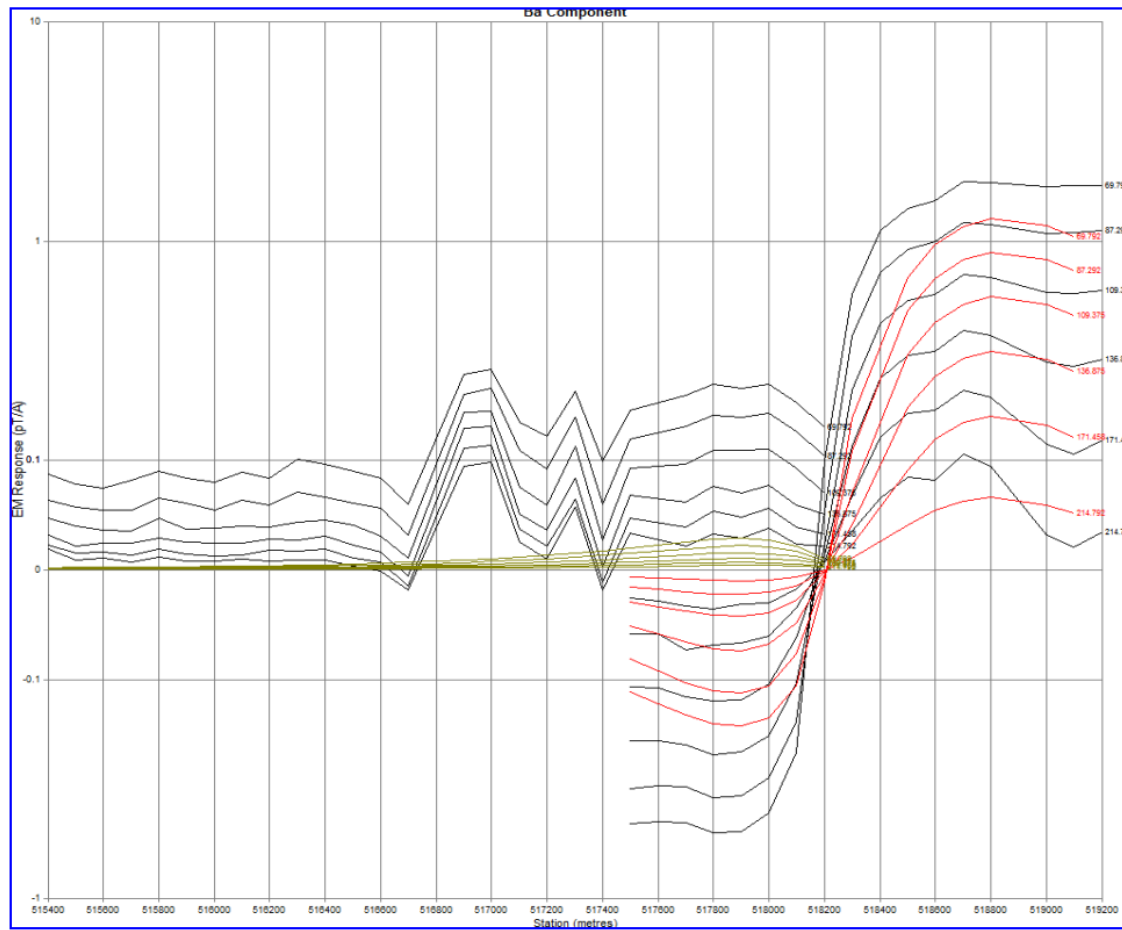
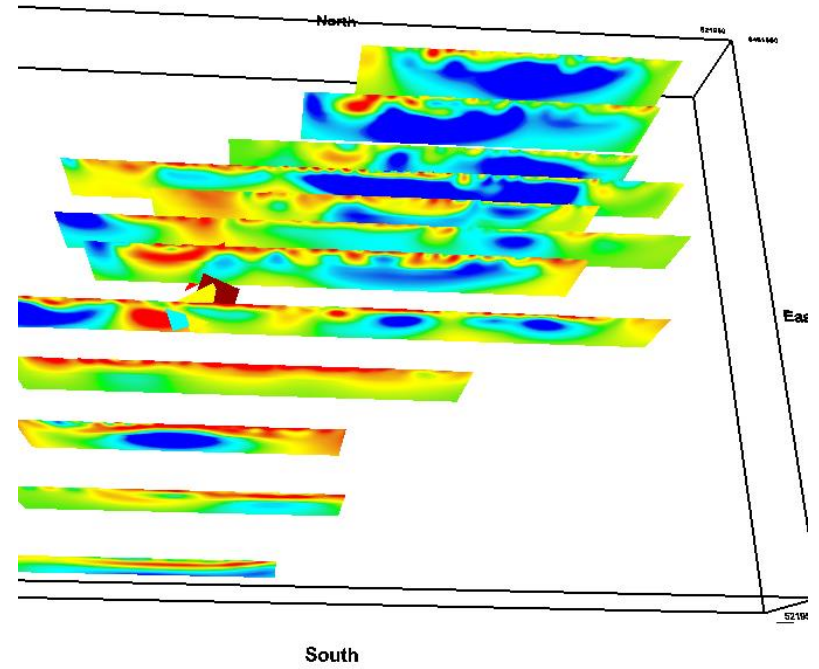
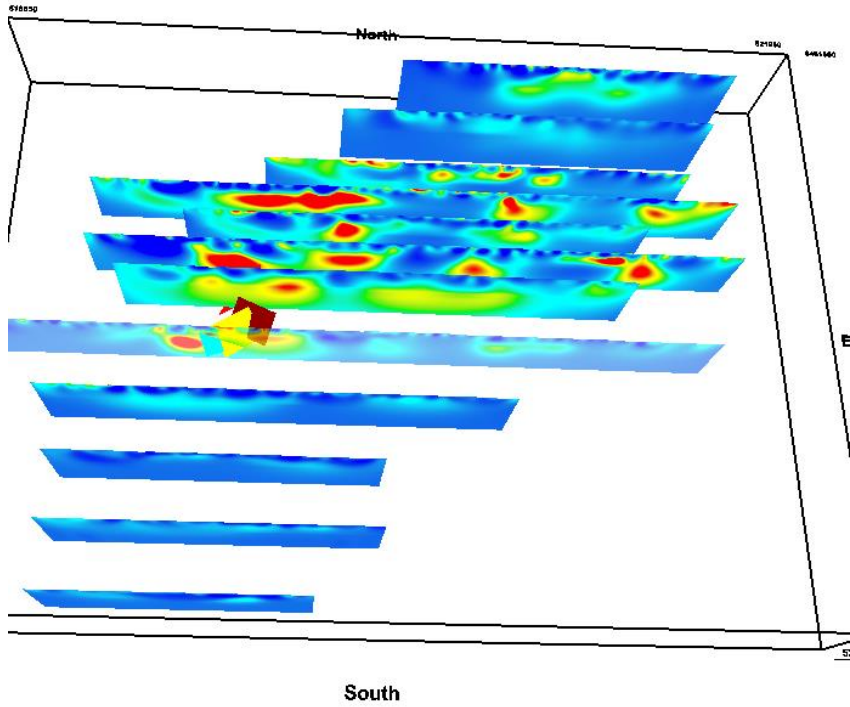


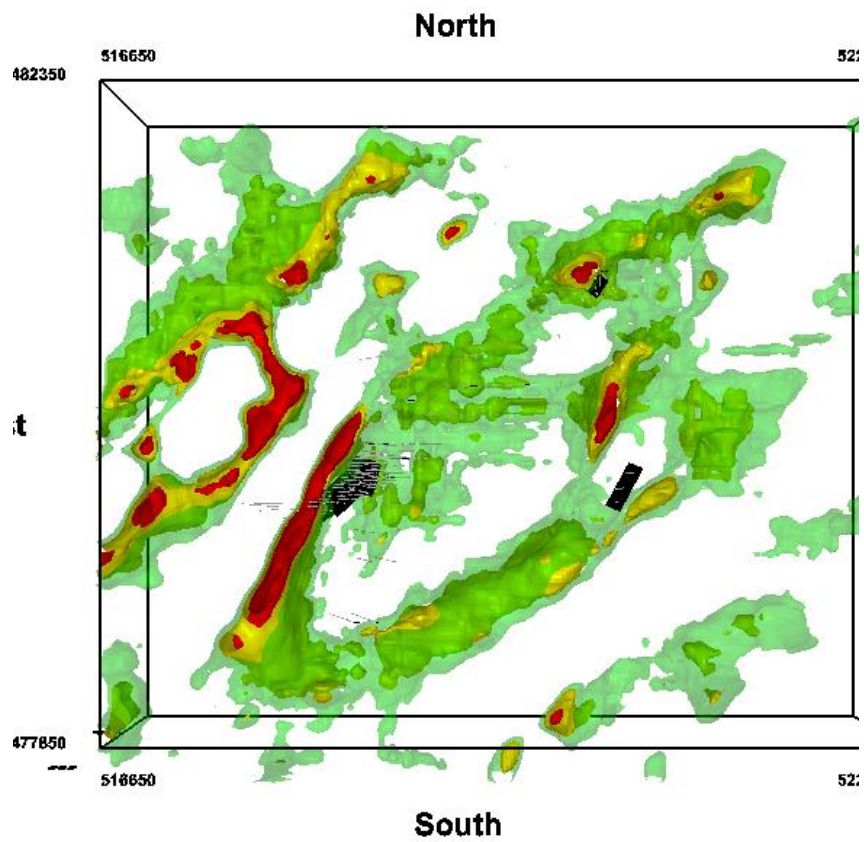
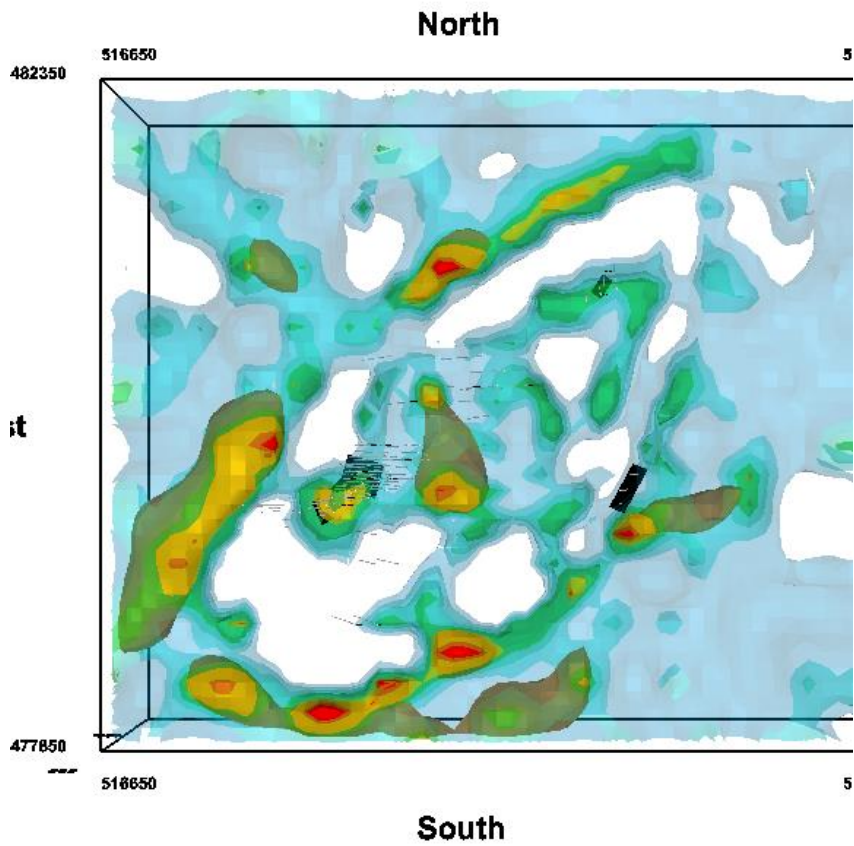
Figure 9: Samson FLEML17 FLEML06, with model(1) response red and green note the lower response on L06.

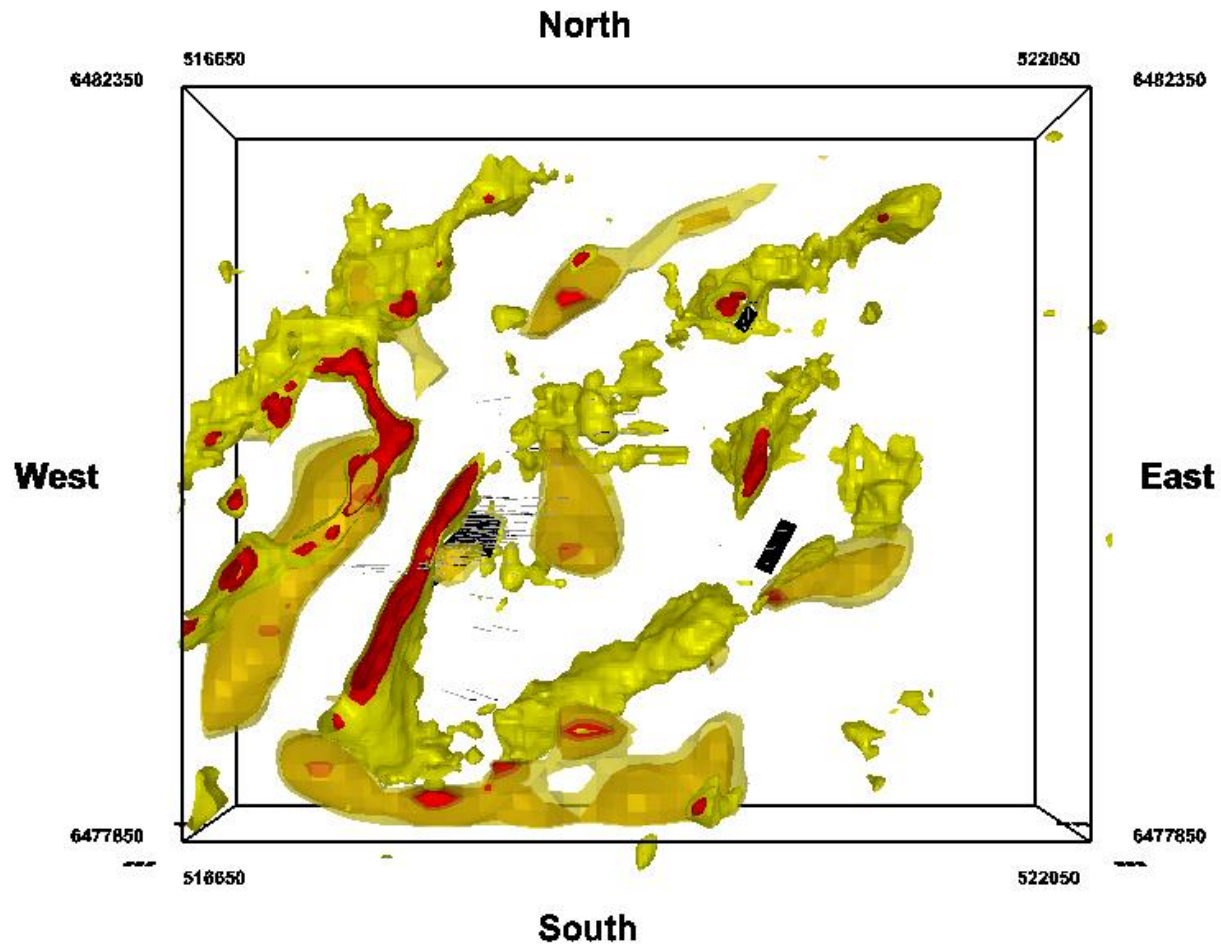
Characterisation

- IP
- Gravity
- Magnetics
- Seismic
- Petro Physical









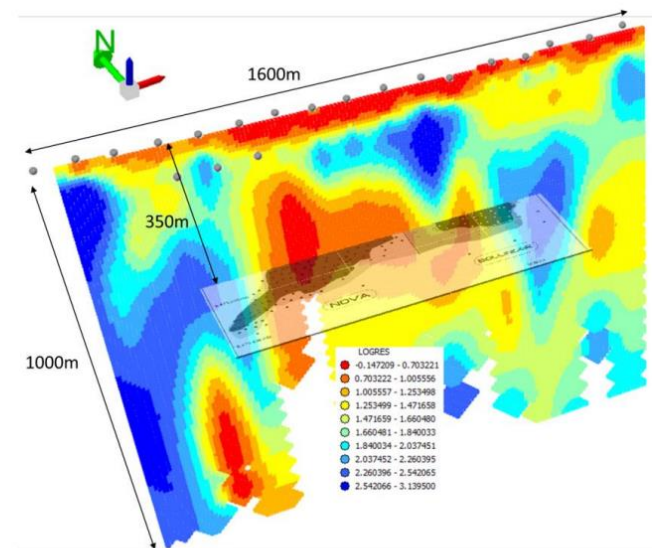
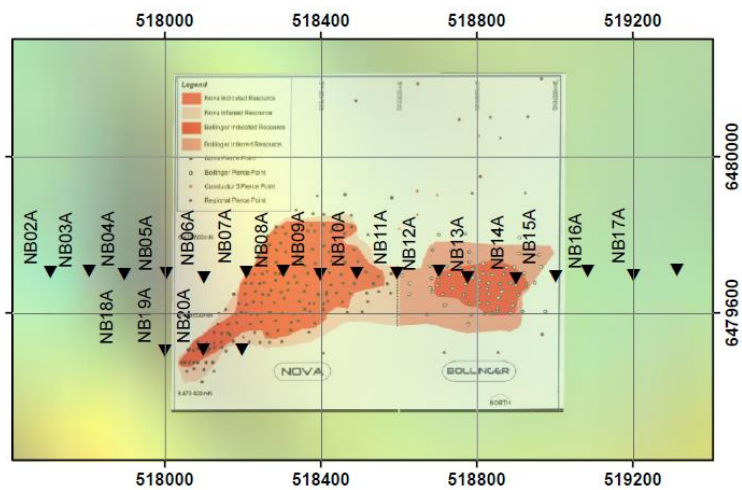


Figure 5: Stitched 1D inversion for the YX mode (east-west electric field).

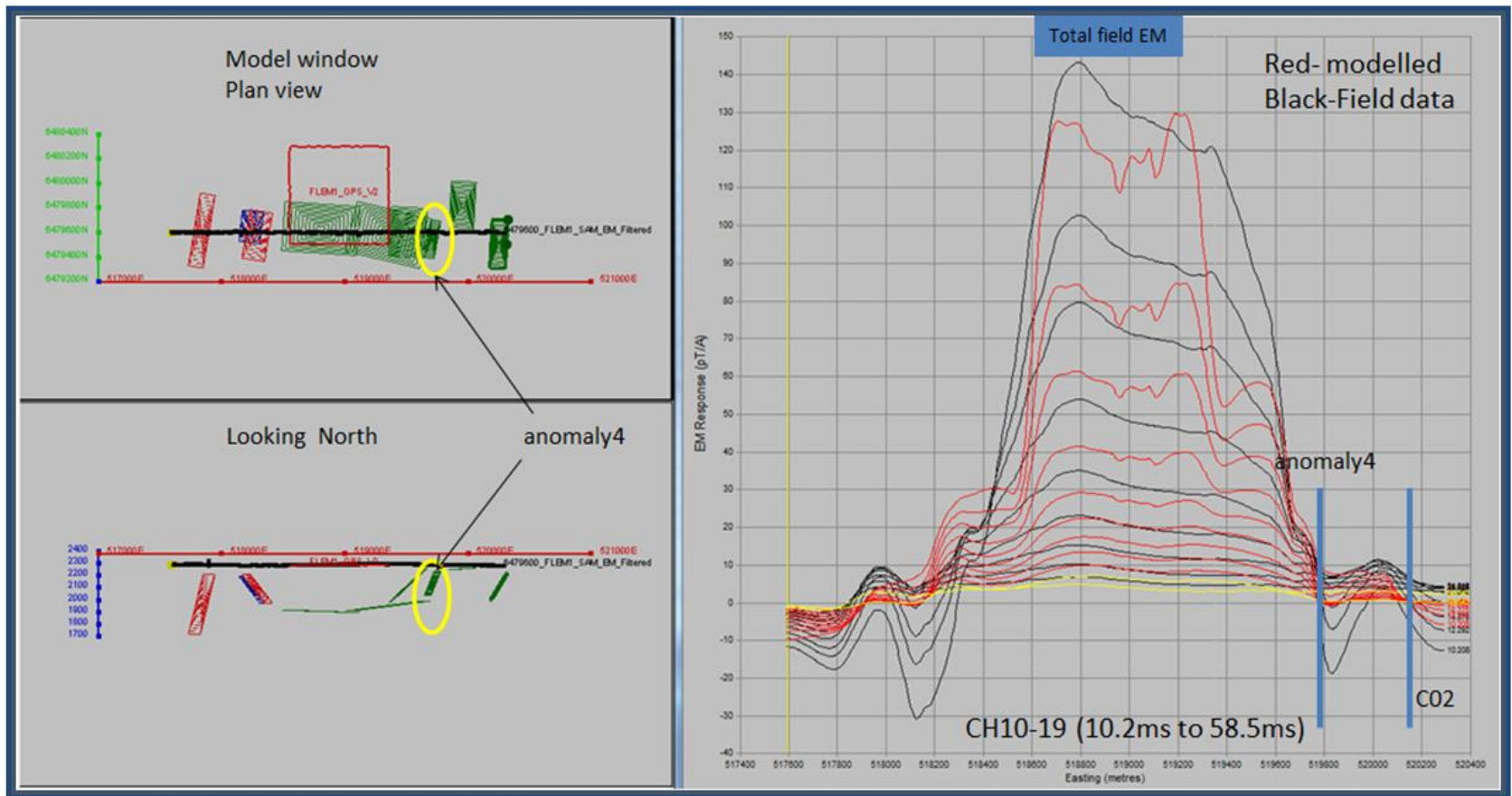


Figure 1: SAM inductive fixed loop modelling on line 6497600mN shown in plan (Left top) and looking north (Left bottom) and right panel shows linear profiles of channels 10 to 19 (10.2ms– 58.5ms)

Initial MLEM

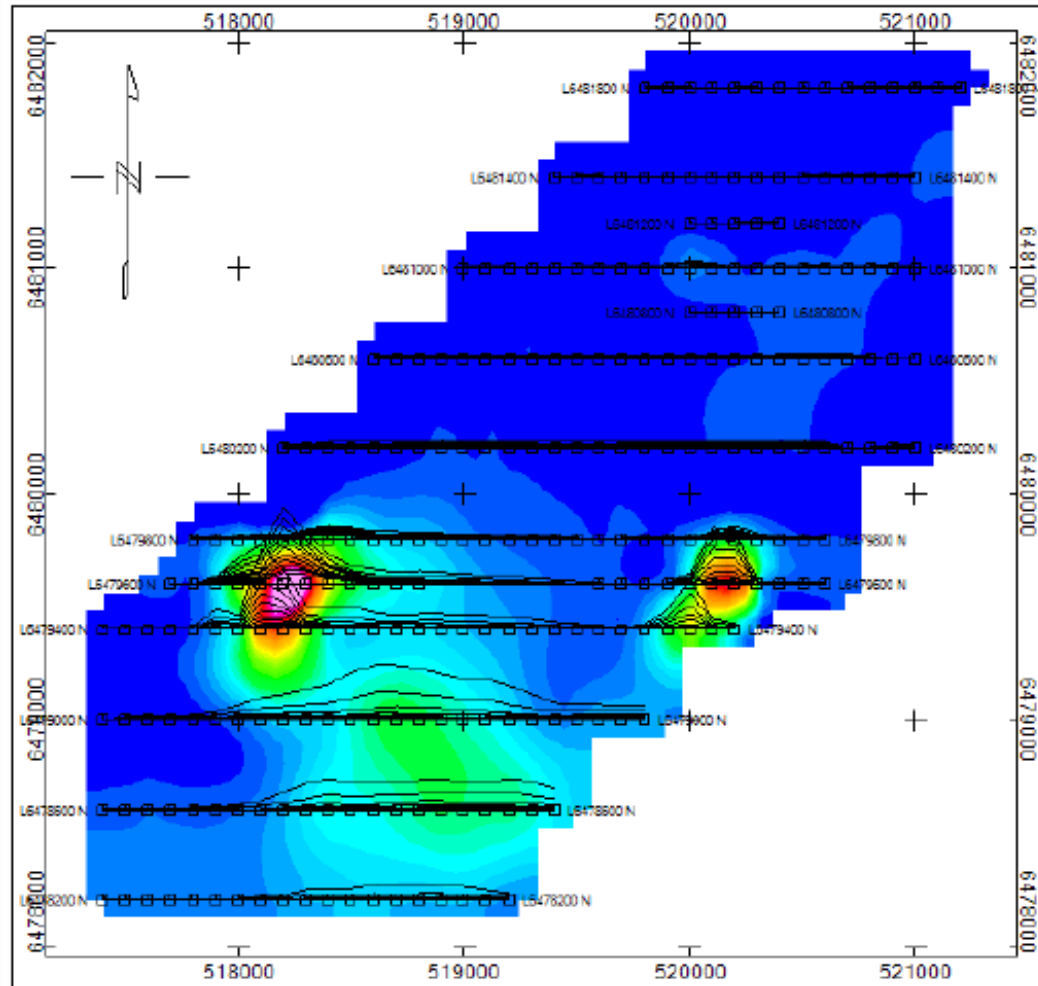
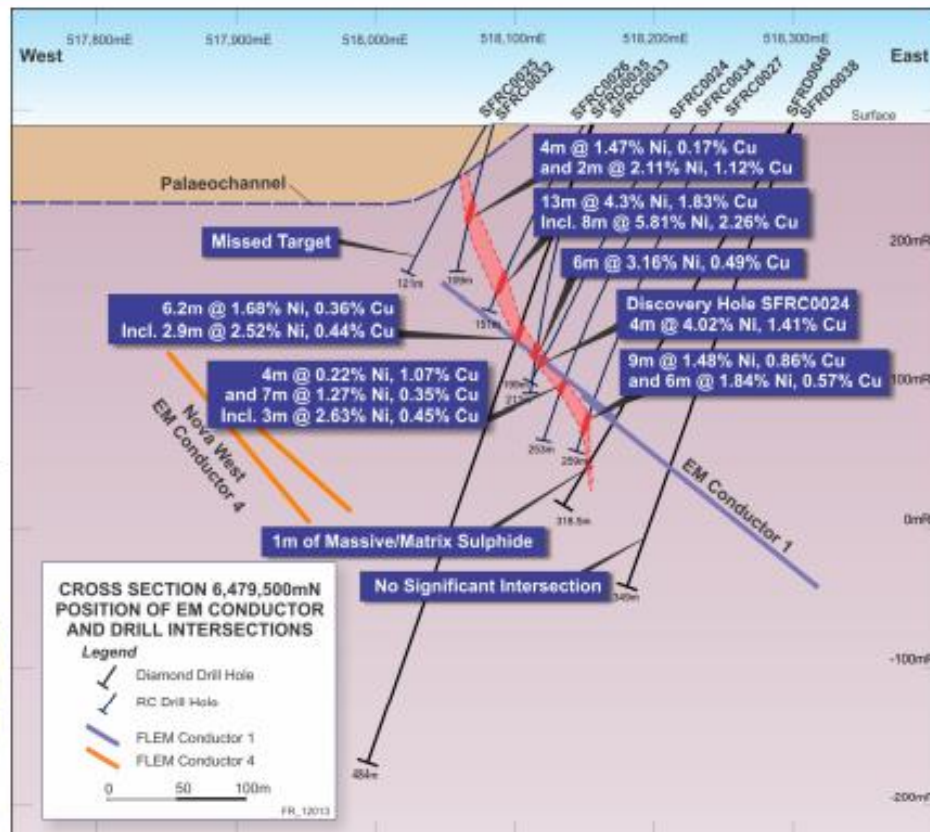


Figure 2: Status plan overlaying a minimum curvature grid of ch28 (34 ms) with linear colouring. Stations are marked as squares and line numbers are annotated.

- Discovery hole intersected 4m @ 4.02% Ni, 1.41% Cu
- Then 13m @ 4.3% Ni, 1.83% Cu incl. 8m @ 5.81% Ni, 2.26% Cu
- >200 metres dip extent defined
- Starts at ~50 metres below surface



DHTEM North of Nova

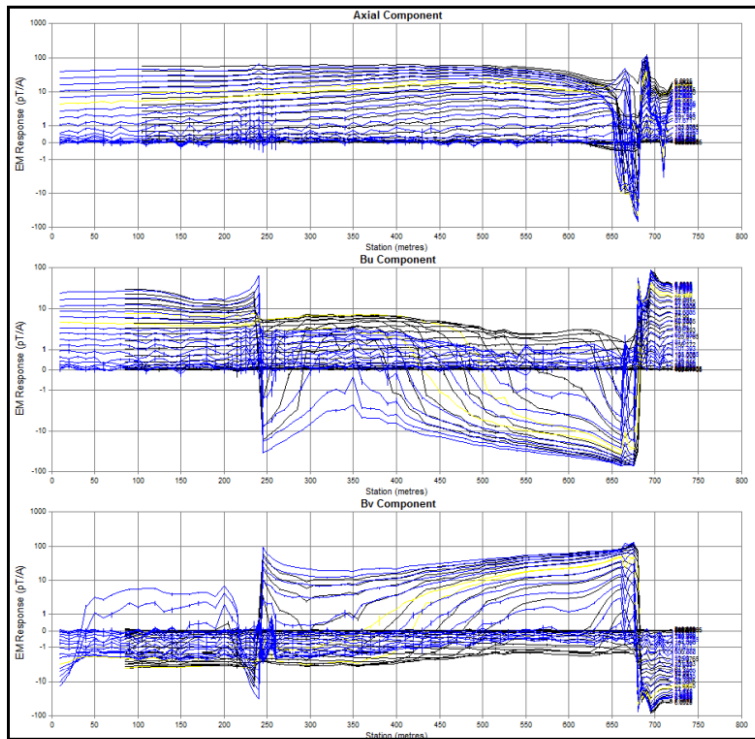


Figure 7: SFRD0244_ML Log profiles 6ms onwards, blue 26 amperes L244, black 165 amperes L17.

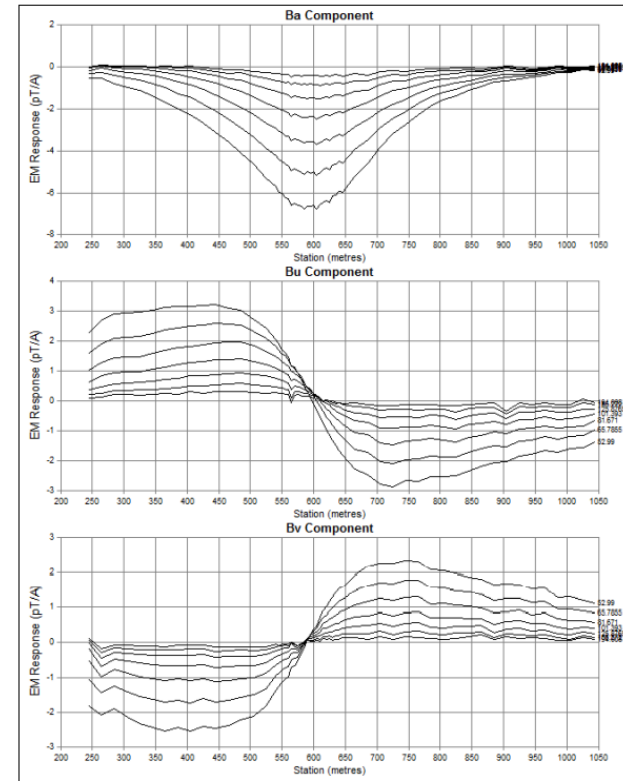


Figure 17: SFRD0557 DHEM stacked linear late time profiles of channels between 30 to 36 (52 ms 194 ms).