



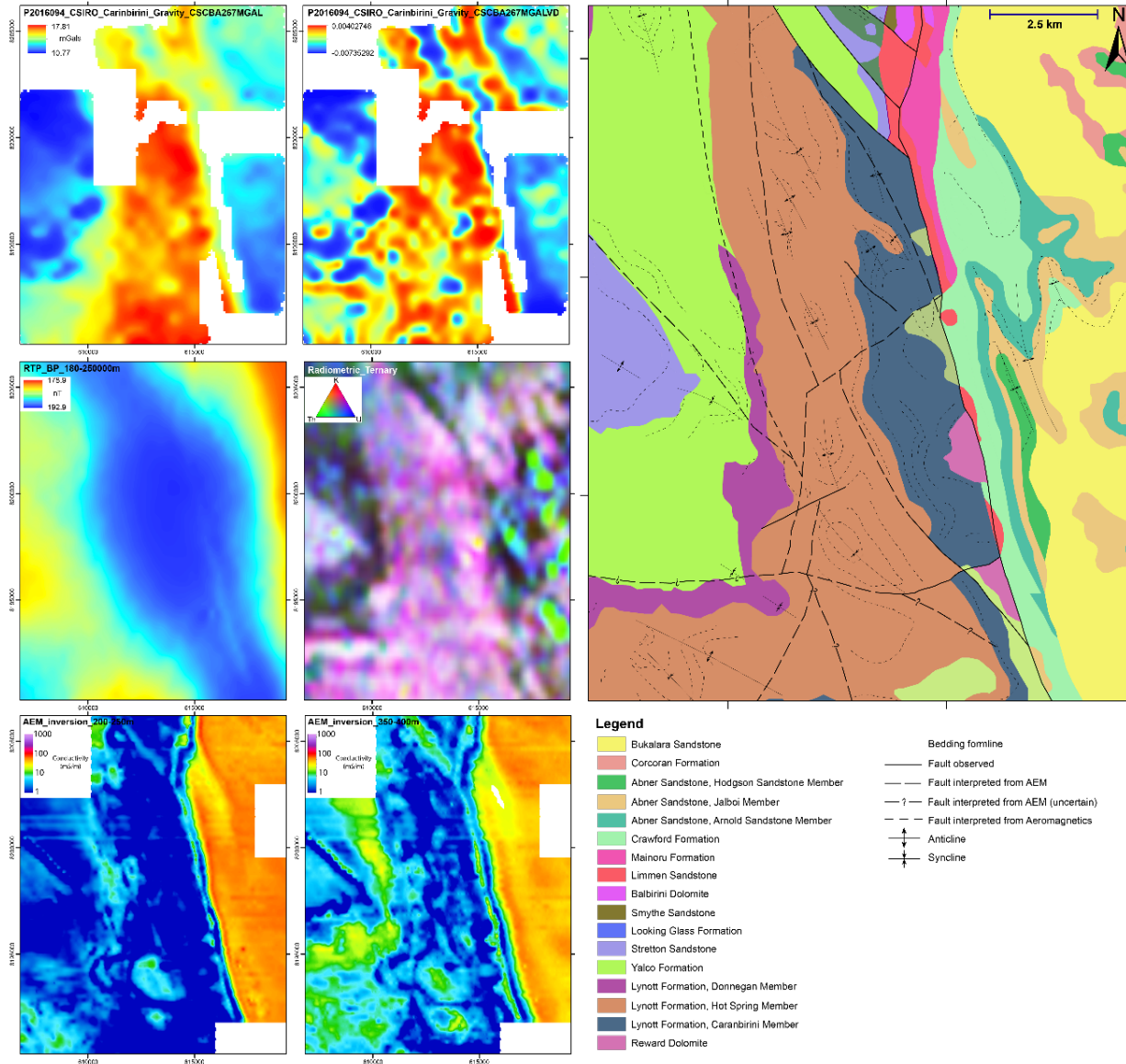
Caranbirini Case Study. Batten Fault Zone, south-eastern McArthur Basin.

Teagan Blaikie^{1,2}, Marcus Kunzmann^{1,2}, Sam Spinks¹, Susanne Schmid¹, Peter Schaub¹, Tim Munday¹, Camilla Seorenson¹

1. CSIRO; 2. Northern Territory Geological Survey

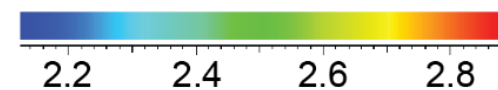
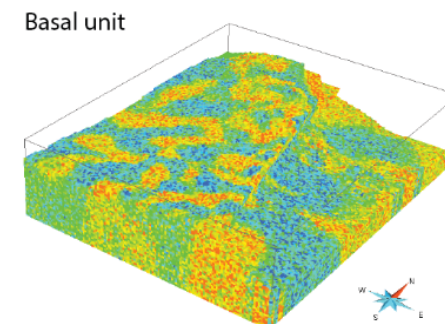
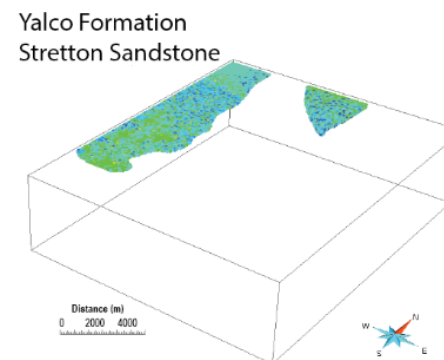
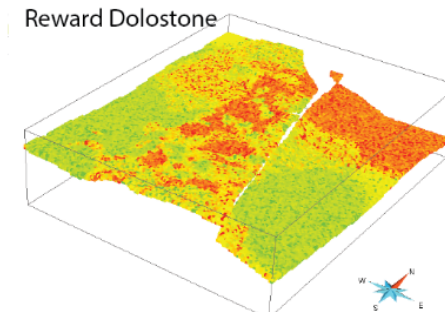
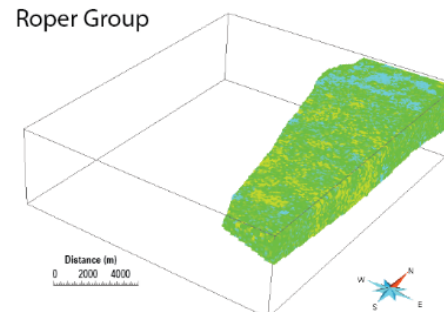
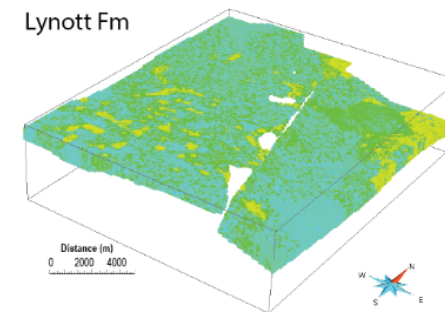
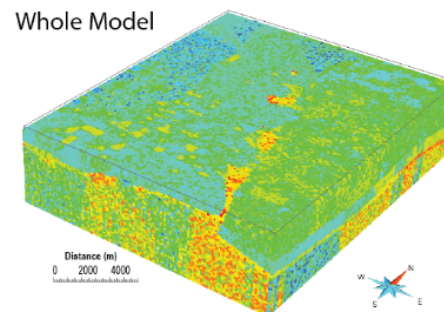
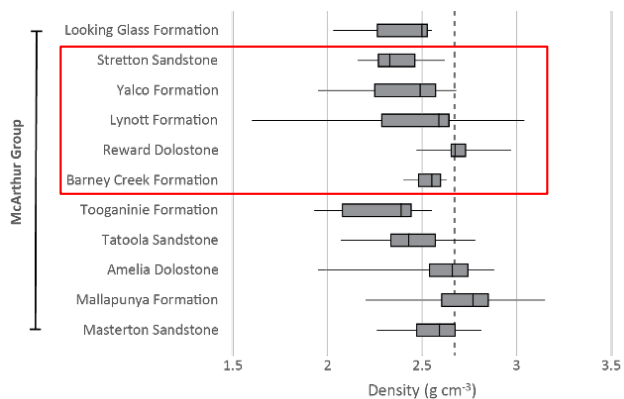
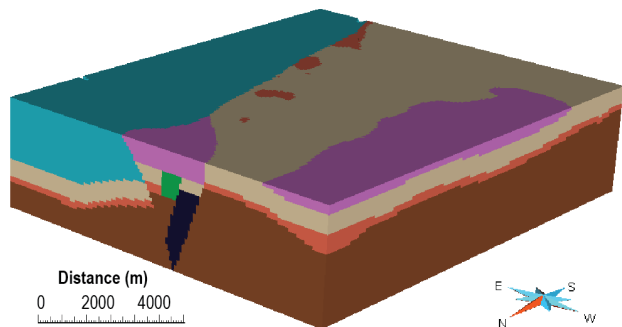
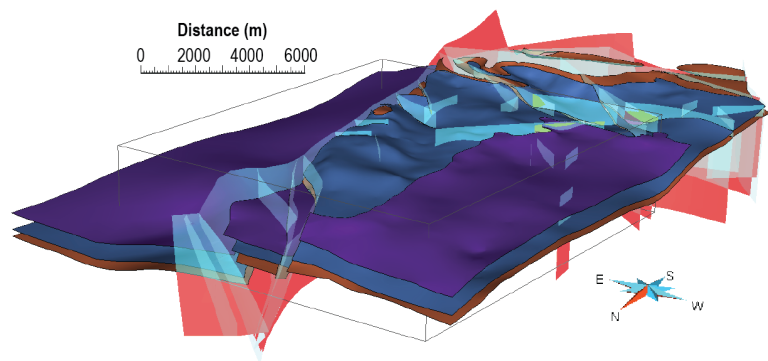
MINERAL RESOURCES
www.csiro.au

Case-study - Caranbirini

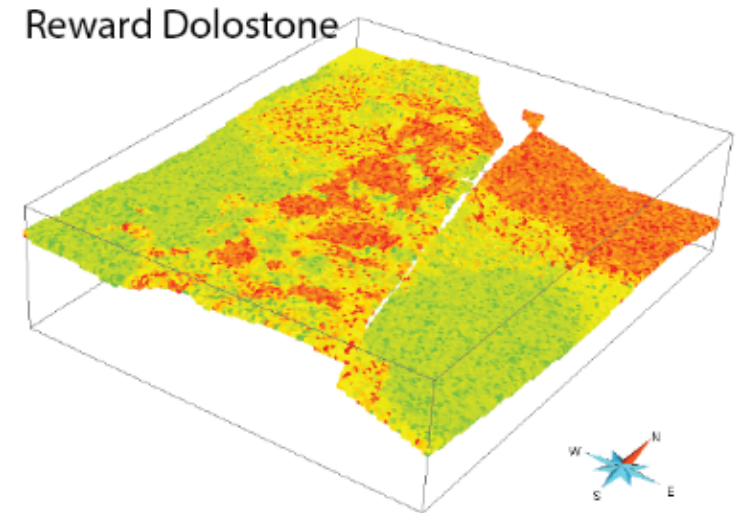
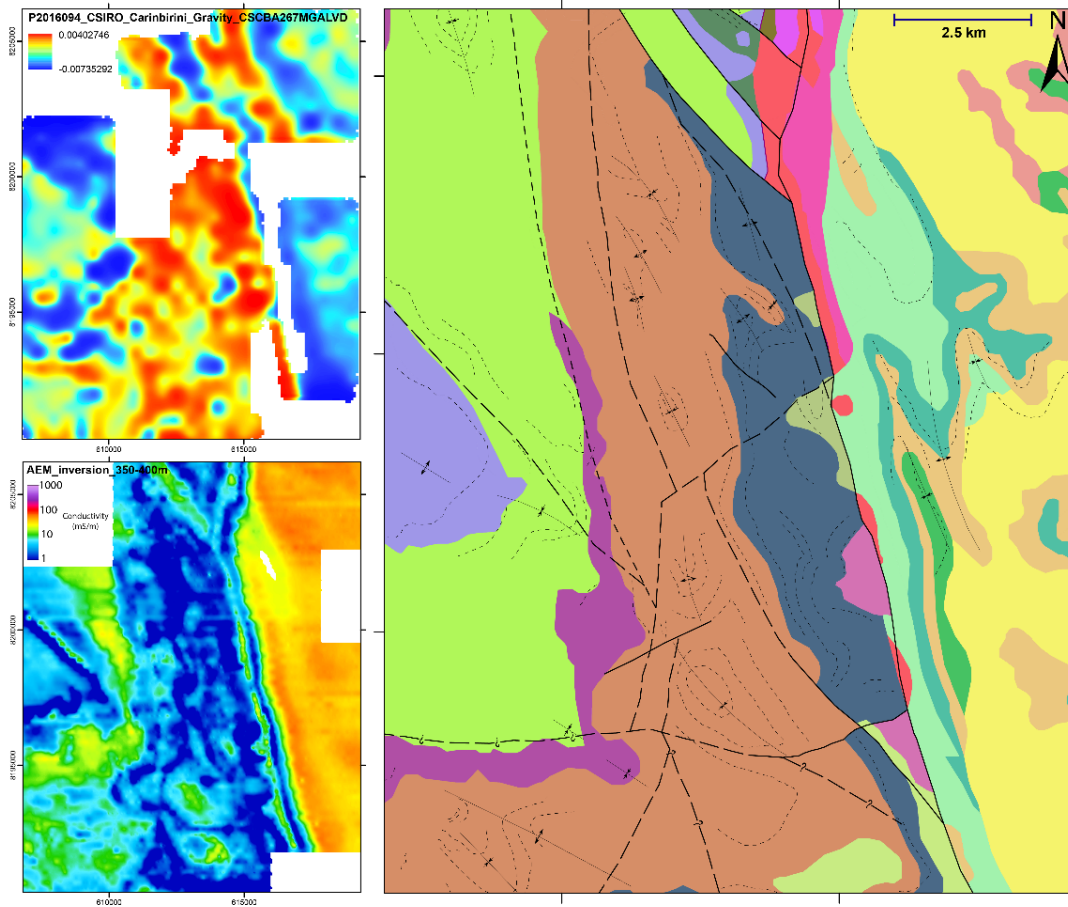


- Stratigraphy from McArthur Group exposed
- Gravity and AEM
 - Structural features, including faults and folds
 - Different formations within the McArthur Group
- Radiometrics
 - Different formations within the McArthur Group
- Magnetics
 - Images depth to volcanics – not really useful for local scale interpretation

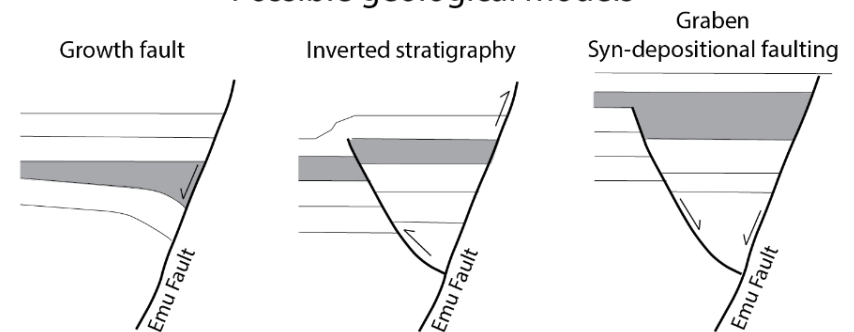
Case-study - Caranbirini



Case-study - Caranbirini



Possible geological models



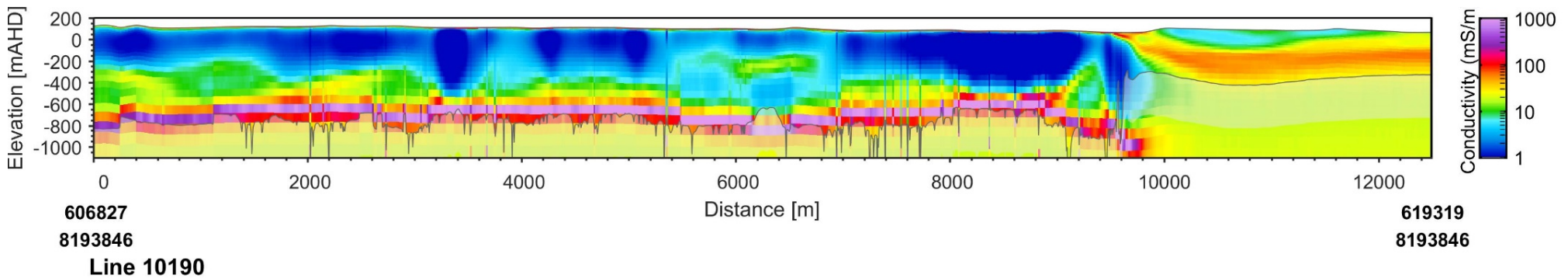
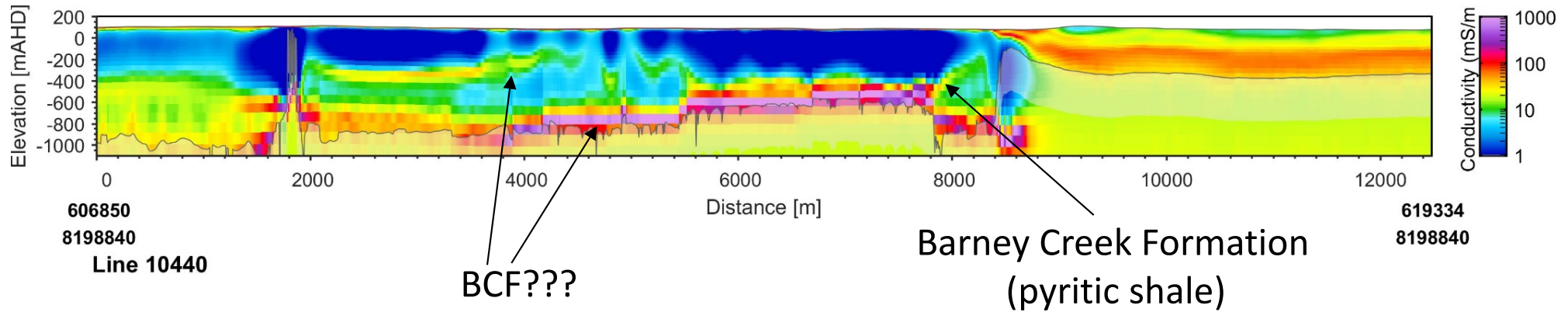
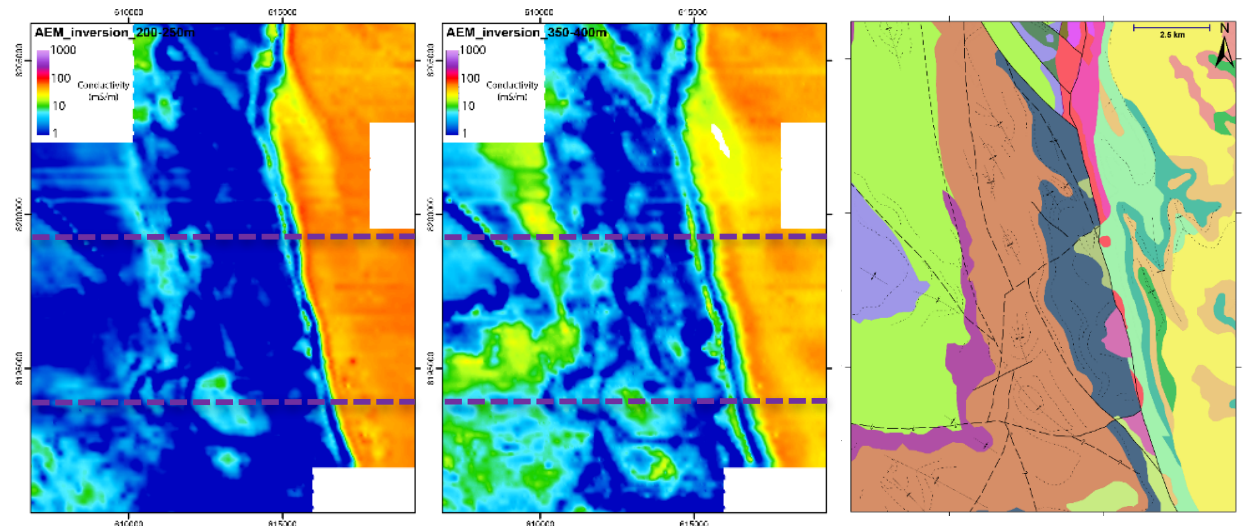
AEM Inversion

2 interpretations

- Deep vs shallow conductor

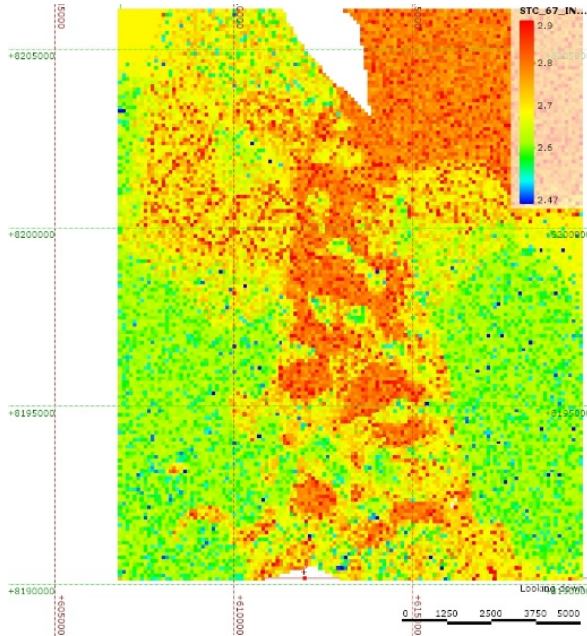
Line 10440

Line 10190

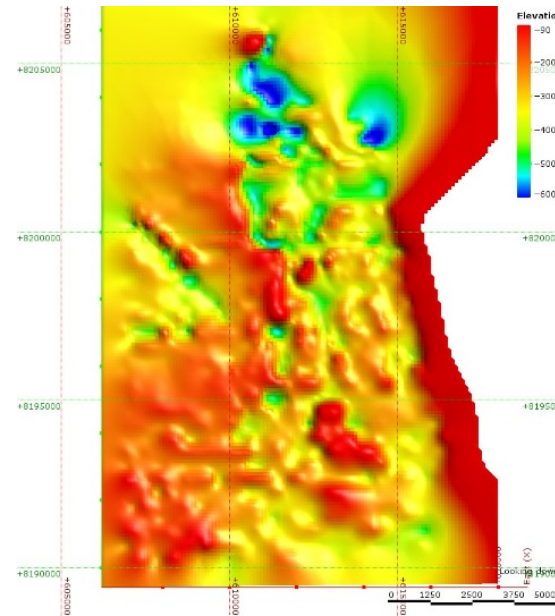


Updated 3D model

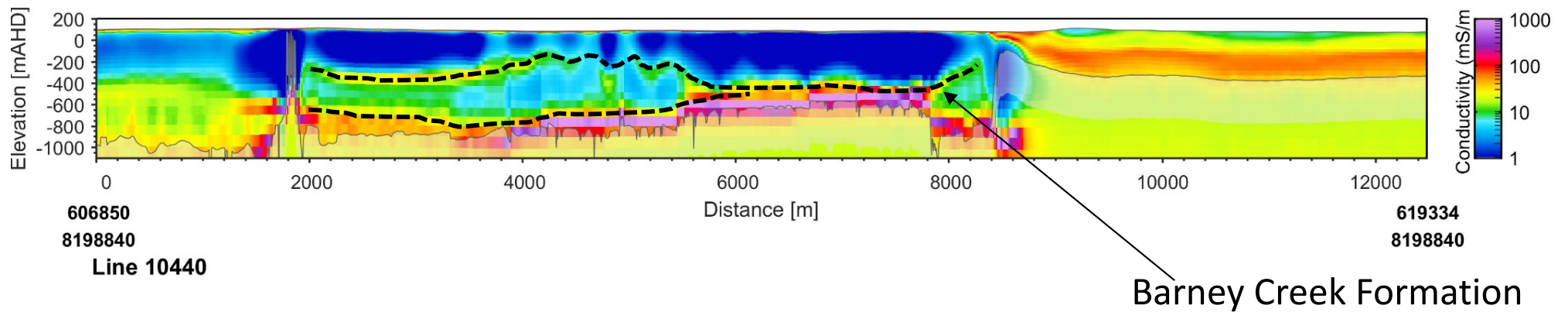
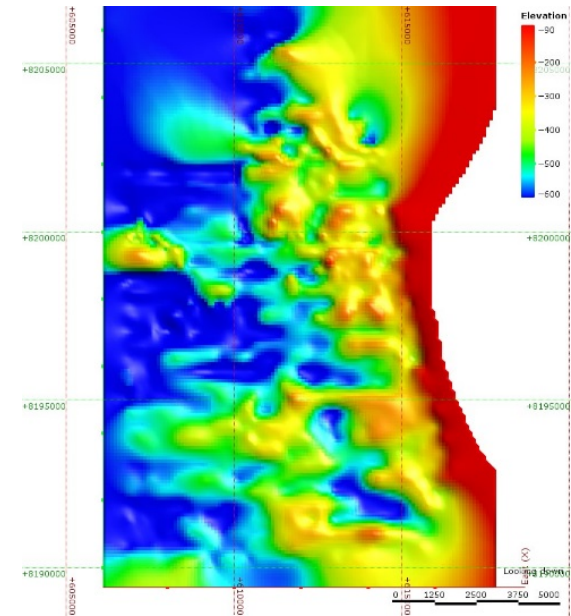
Density anomaly



Shallow conductor

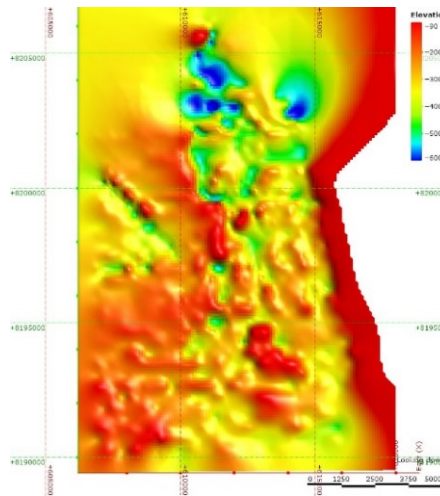


Deep conductor

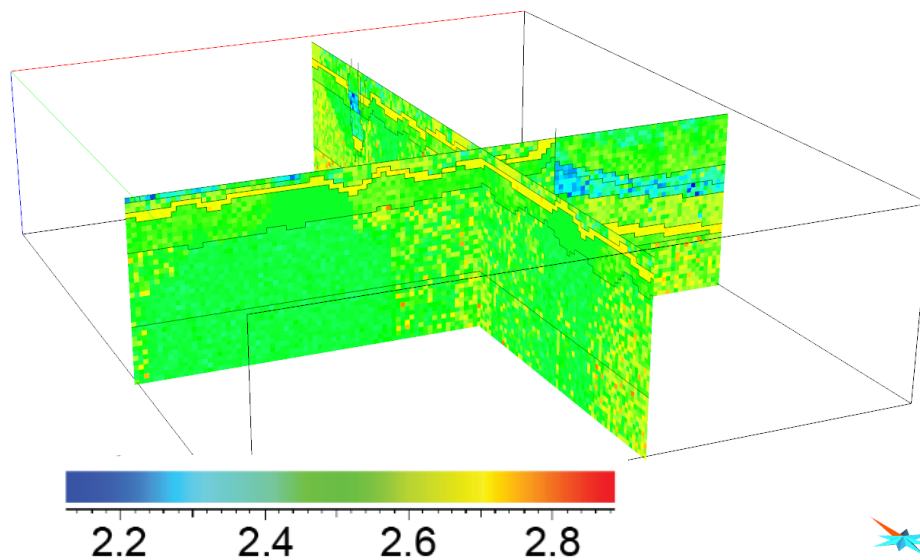
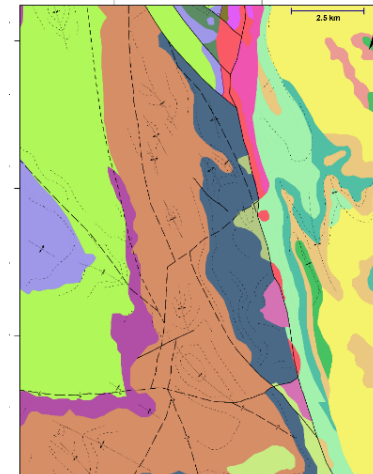
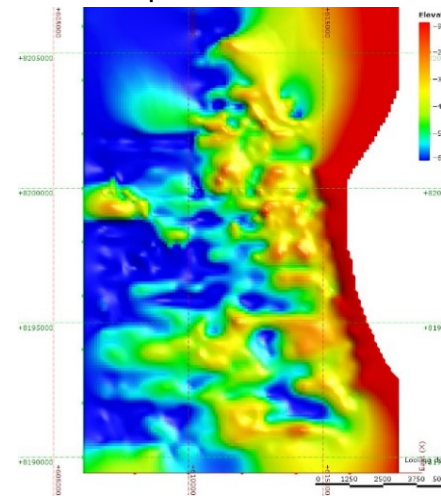


Updated gravity model

Shallow conductor



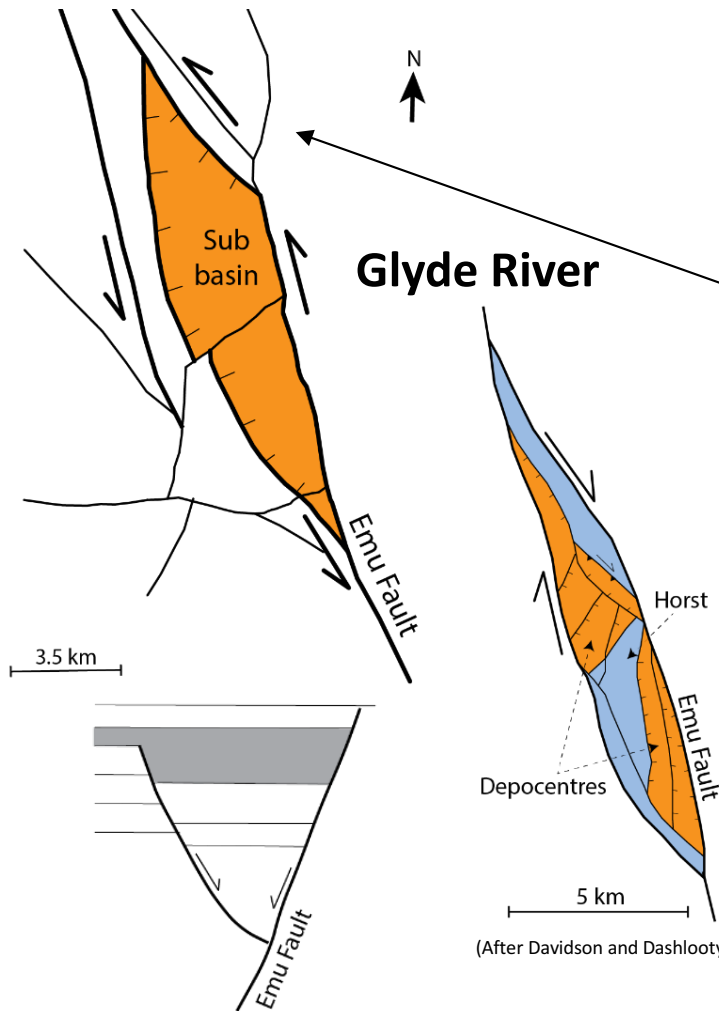
Deep conductor



- 2 new models
 - Both produce better results during gravity inversion
- Model based on shallow conductor for the Barney Creek Formation is favoured
 - Higher uncertainty regarding pick of deep conductor (close to depth of investigation & may be an artefact of the AEM inversion)
 - Structural interpretation is more consistent with what is observed elsewhere in the basin

Geological model

Caranbirini



Batten Fault Zone

