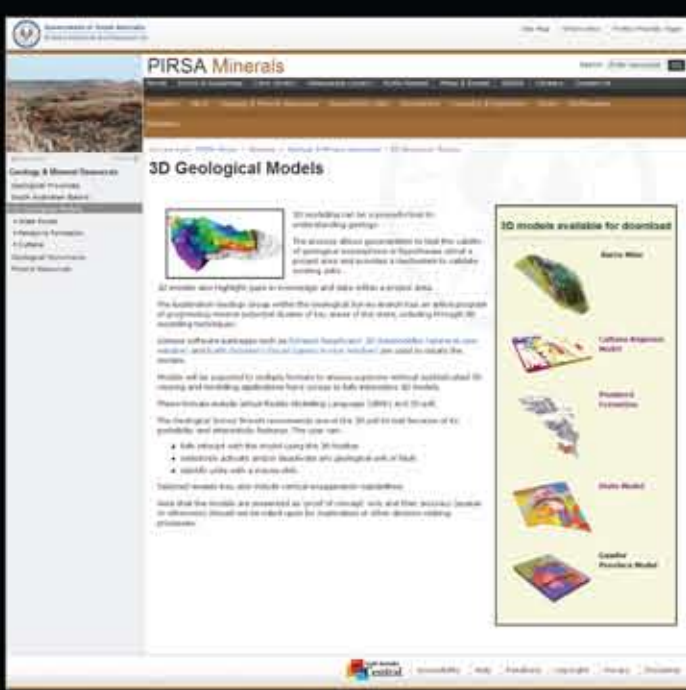


3D Geological Models Online



The Exploration Geology Team within the Geological Survey Branch is progressively developing 3D geological models for areas of high mineral potential within the state. Intrepid Geophysics' 3D Geomodeller and Paradigm's GoCad applications have been used in the generation of these models.

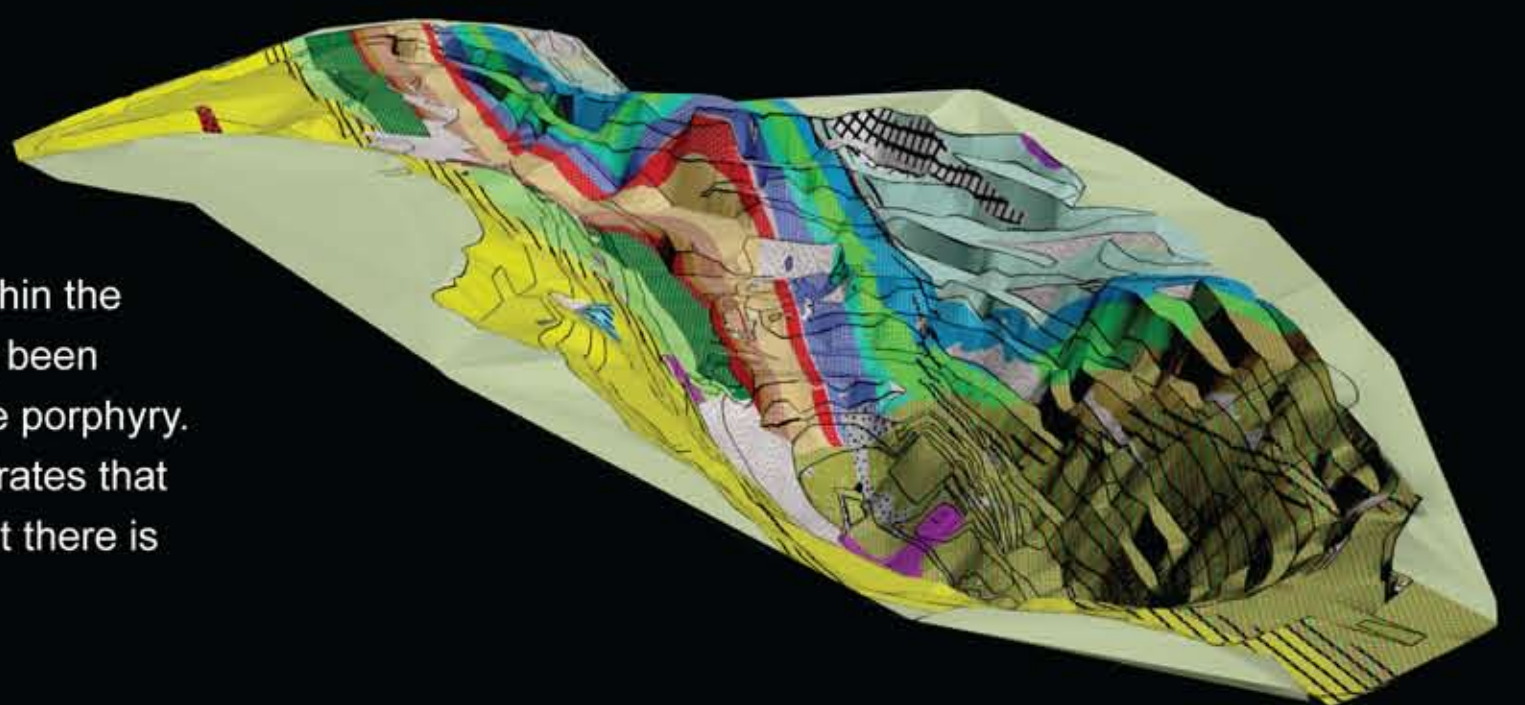
The models are provided in Acrobat 3D-PDF format. Acrobat Reader V9 (free download from adobe.com) is recommended for its portability and interactivity features.

- Rotate, spin, pan and zoom
- Geological unit selection
- Faults
- Geophysical sections

Current models available to download:

Burra Mine

The Burra (Burra) Mine is situated 150 km north of Adelaide within the Adelaide Geosyncline. Copper mineralisation at Burra has long been linked to hydrothermal alteration associated with intrusion of the porphyry. The newly determined age (797 ± 5 Ma) convincingly demonstrates that these events occurred soon after deposition of the host and that there is stratigraphic control on mineralisation.



Cultana Regional Model

The geology of the model area comprises a succession of deformed Palaeoproterozoic sedimentary and intrusive rocks which are overlain by the Corunna Conglomerate and Mesoproterozoic Gawler Range Volcanics and intruded by the Hiltaba Suite granites. In the east of the model area the Gawler Craton basement is overlain by a sequence of Neoproterozoic sediments and volcanics of the Stuart Shelf. These sediments have been eroded from the uplifted block of the Cultana Inlier, to expose the basement below.

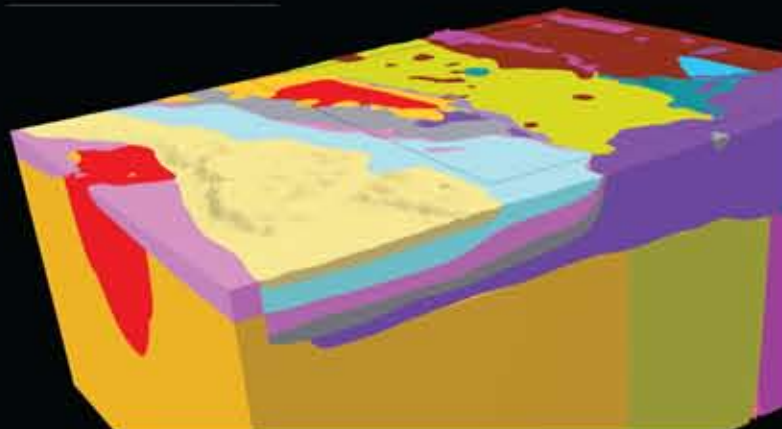
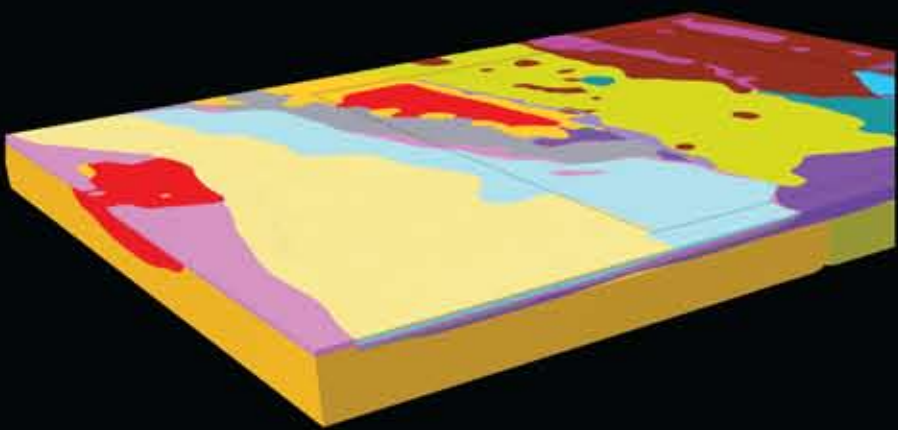
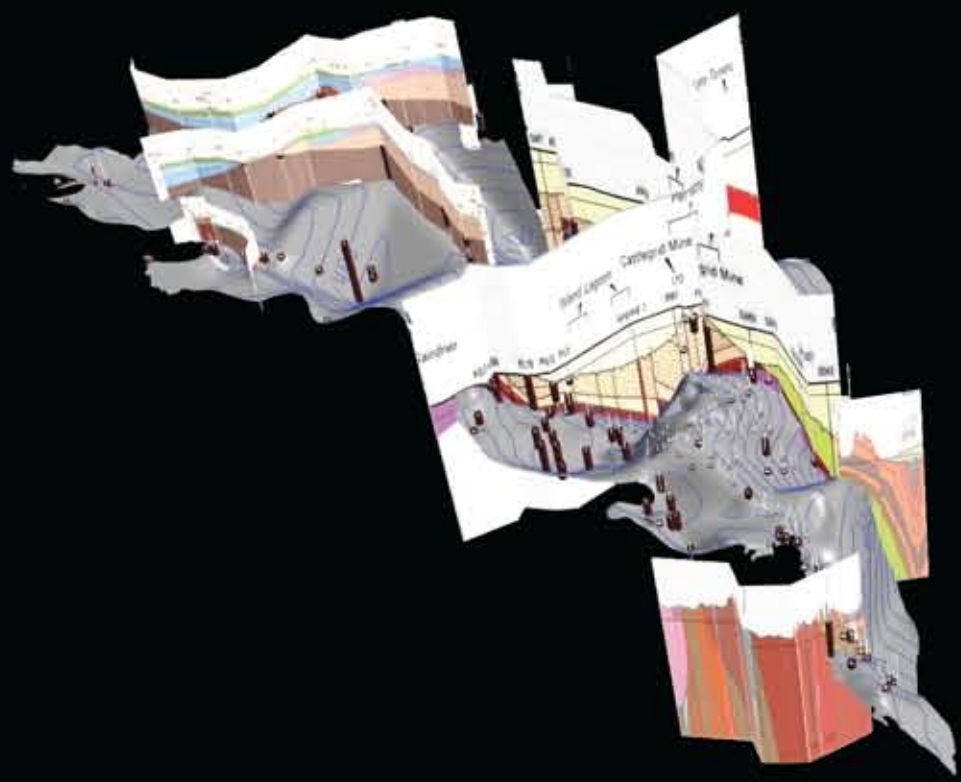


Image of the Cultana model looking to the south-west. The image on the right demonstrates the vertical exaggeration capabilities when applied to 3d-pdf models.



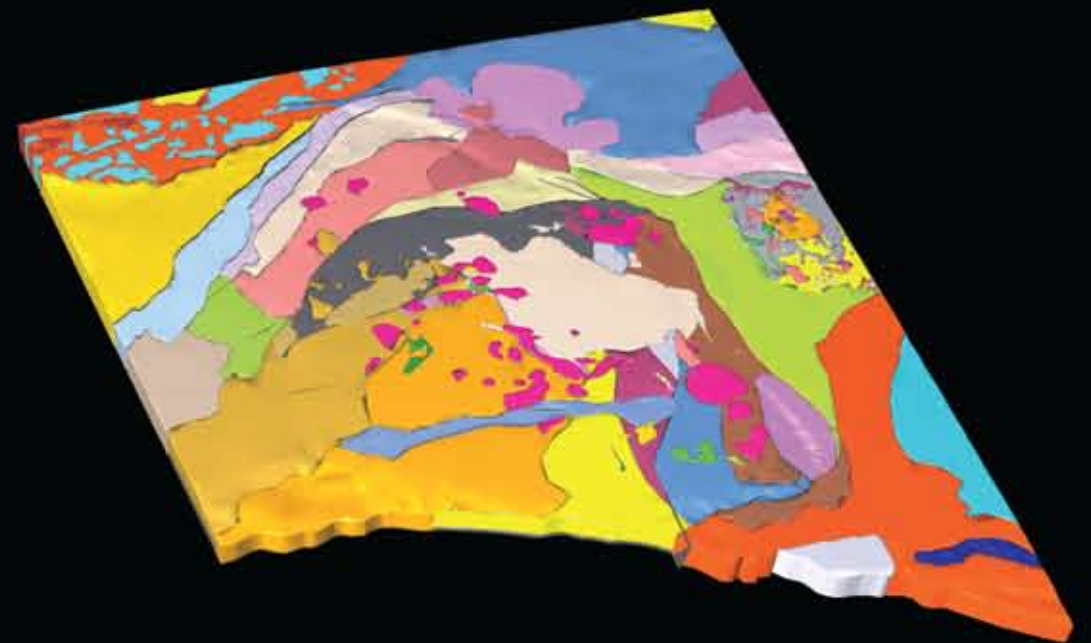
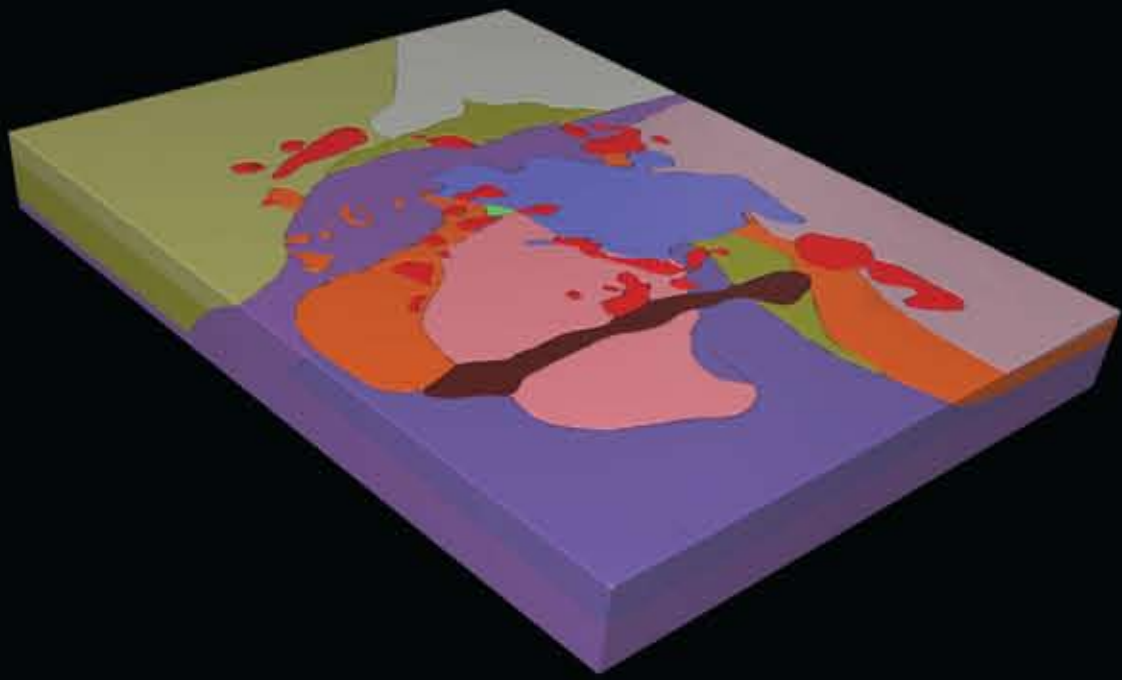
Pandurra Formation

The Pandurra Formation is a thick, monotonous unit of unmetamorphosed, flat-lying, arenaceous redbed sediments restricted to the north eastern Gawler Craton. The Cariewerloo Basin, which hosts the Pandurra Formation, has potential for unconformity-style Uranium. An important aspect of this exploration model are the depth and geometry of the cover-basement contact.

The final model includes the top and base of Pandurra Formation surfaces, all the drillholes and cross sections used and depth to surface isopachs.

State Model

The current State 3D Solid Geology Model is a compilation of pre-existing 3D Gawler Craton and Curnamona Province models constructed in GeoModeller. These original 3D models were extended to cover the remainder of South Australia using a generalisation of the Solid Geology of South Australia GIS dataset.



Gawler Province

PIRSA's early 3D modelling trials targeted the Gawler Craton Region. The process of building the Gawler model in 3D GeoModeller began with identifying the stratigraphic units that were to be modelled. Due to the regional scale of the project, packages of units were aggregated into single units (e.g. Nawa Domain). The Gawler Craton 3D model enables users to visualise, in a relatively simple form, the complex nature of the Gawler Craton and the effects this can have on potential mineralisation.

All models can be viewed or downloaded directly from Minerals 3D Geological Models Web page at:
www.minerals.pir.sa.gov.au/geology/3d_geological_models

The Gawler and Curnamona Province 3D datasets are available on DVD for \$20 plus postage and handling from PIRSA Customer Service Centre, email pirsa.customerservices@saugov.sa.gov.au, phone +61 8 8463 3000.

PACE

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