



The Performance of the Satellite-borne Hyperion Hyperspectral VNIR-SWIR Imaging System for Mineral Mapping at Mount Fitton, South Australia

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Objective

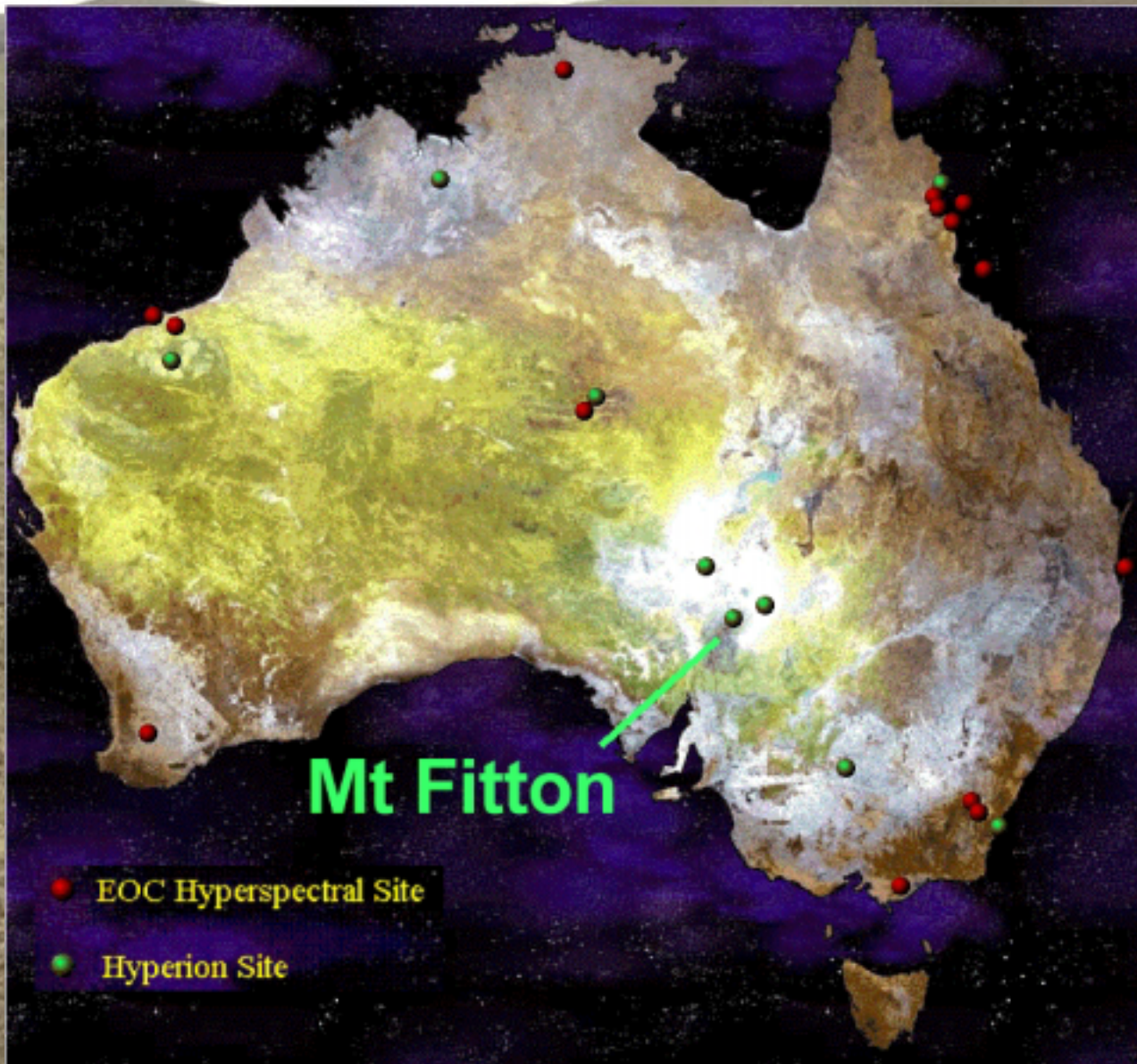
To evaluate how well a diverse suite of SWIR-active minerals can be spectrally identified and spatially mapped for the well exposed Mount Fitton test site using data from the HYPERION spaceborne hyperspectral VNIR-SWIR imaging system.

HYPERION

- NASA Technology Demonstrator
- Spaceborne hyperspectral VNIR-SWIR pushbroom imager
- Onboard EO1, launched Nov 2000
- 242 spectral bands
- 400-2500 nm
- SWIR SNR <40:1
- Successful NRA for Oz



Australian Hyperion Test Sites



-29°55'S, 139° 25'E

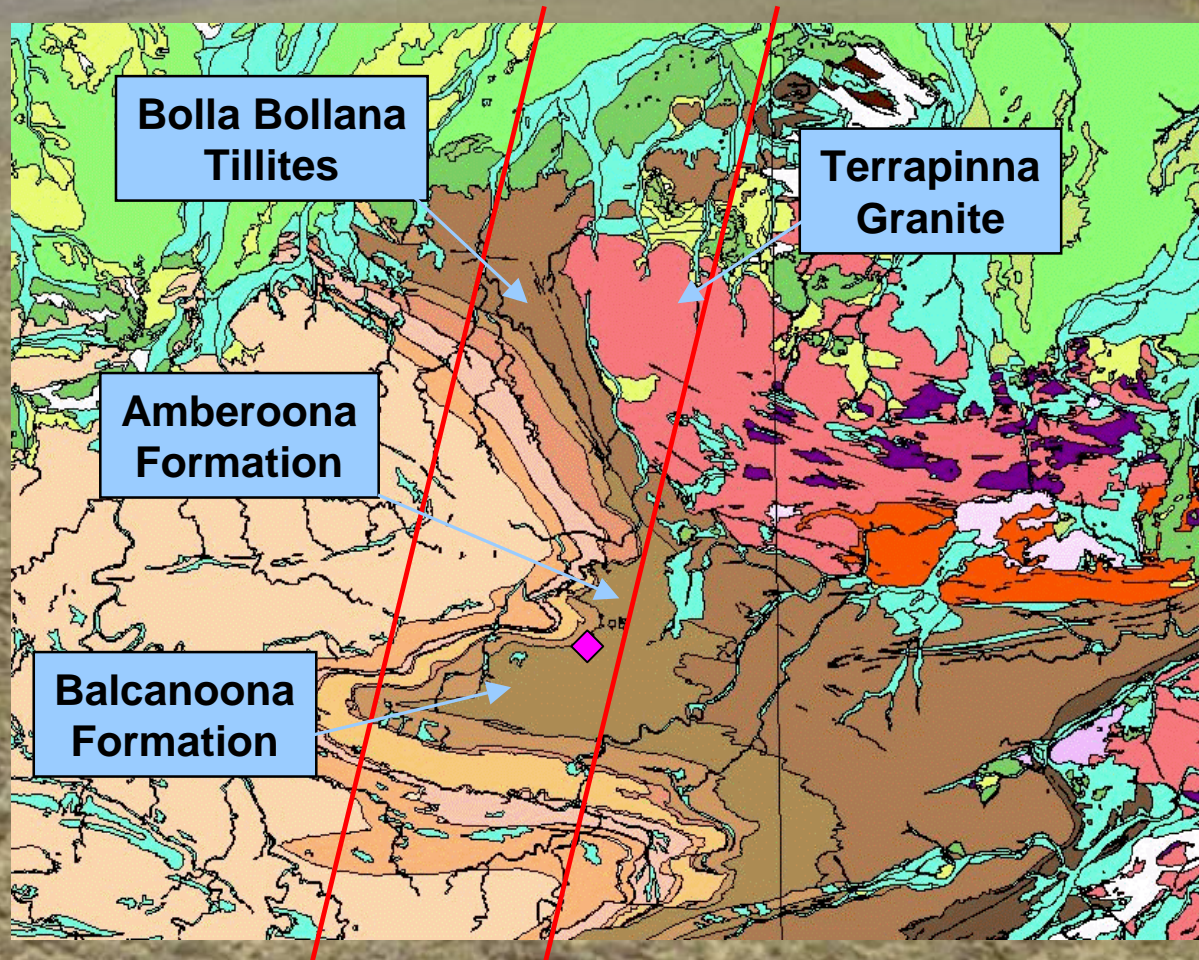
700 km NNW of Adelaide

Land Use & Environment

- Semi-arid (<250 mm per year)
- Sheep (wool) and mining (talc)
- Vegetation is stunted and sparse (<15%)
 - grasses, saltbush, bluebush, mallee, mulga
- low-moderate relief (<80 m)
- large areas (>>10s m) of in situ, relatively unweathered rock
 - sharp geological boundaries
 - units 50m to 5 km wide.



Published Geology



Hyperion coverage

- **Terrapinna Granite:** white micas (Tchermak substitution)
- **Bolla Bollana Fm:** actinolite, white mica
- **Amberoona Fm:** dolomite, magnesite, **talca**, tremolite, chlorite, white mica
- **Balcanoona Fm:** chlorite, white mica