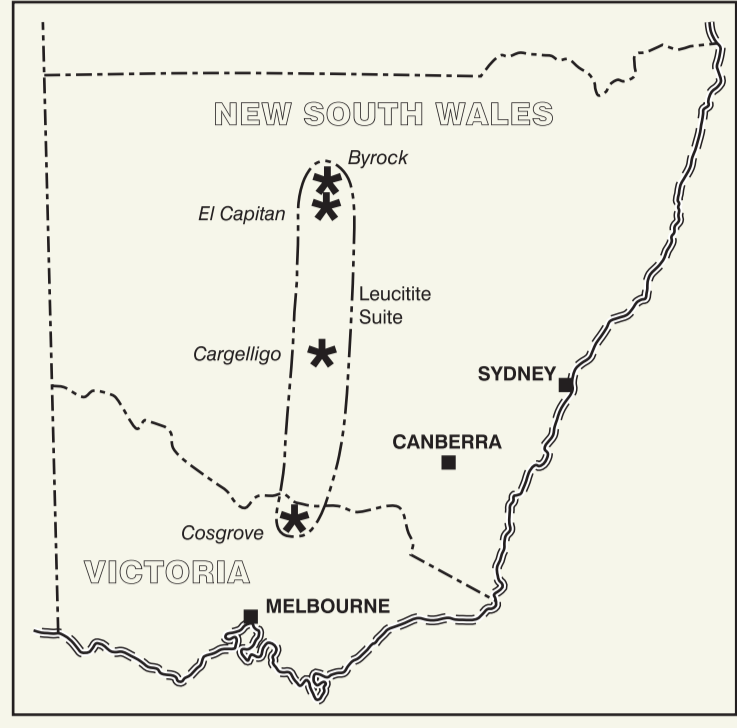
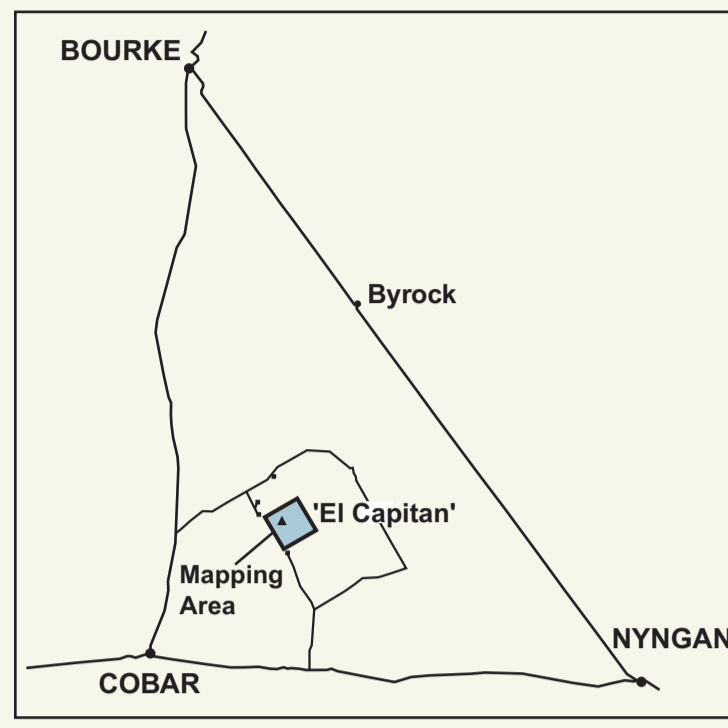


'El Capitan' Regolith-Landforms

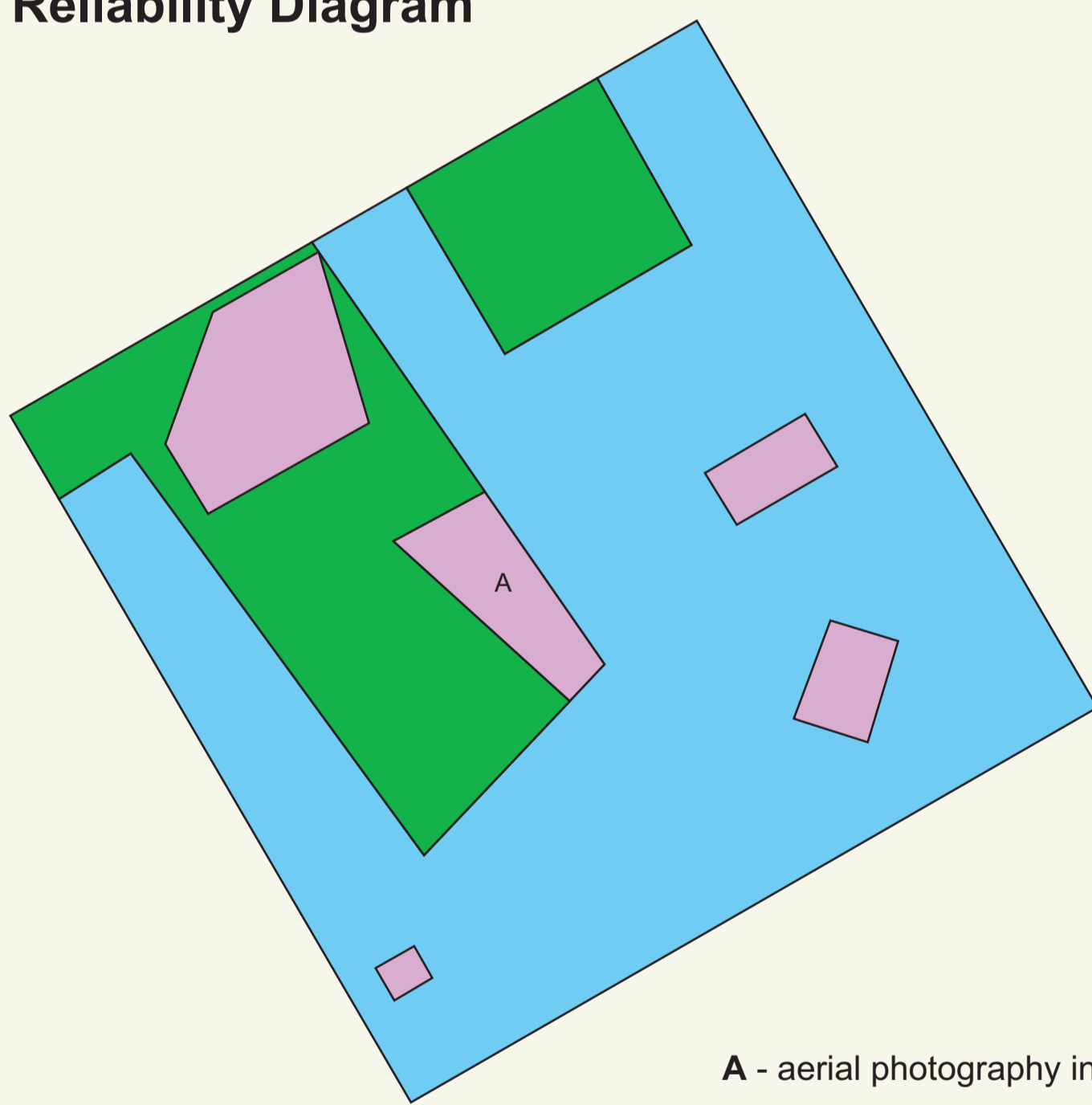
LEUCITITE SUITE IN EASTERN AUSTRALIA



LOCATION DIAGRAM



Reliability Diagram

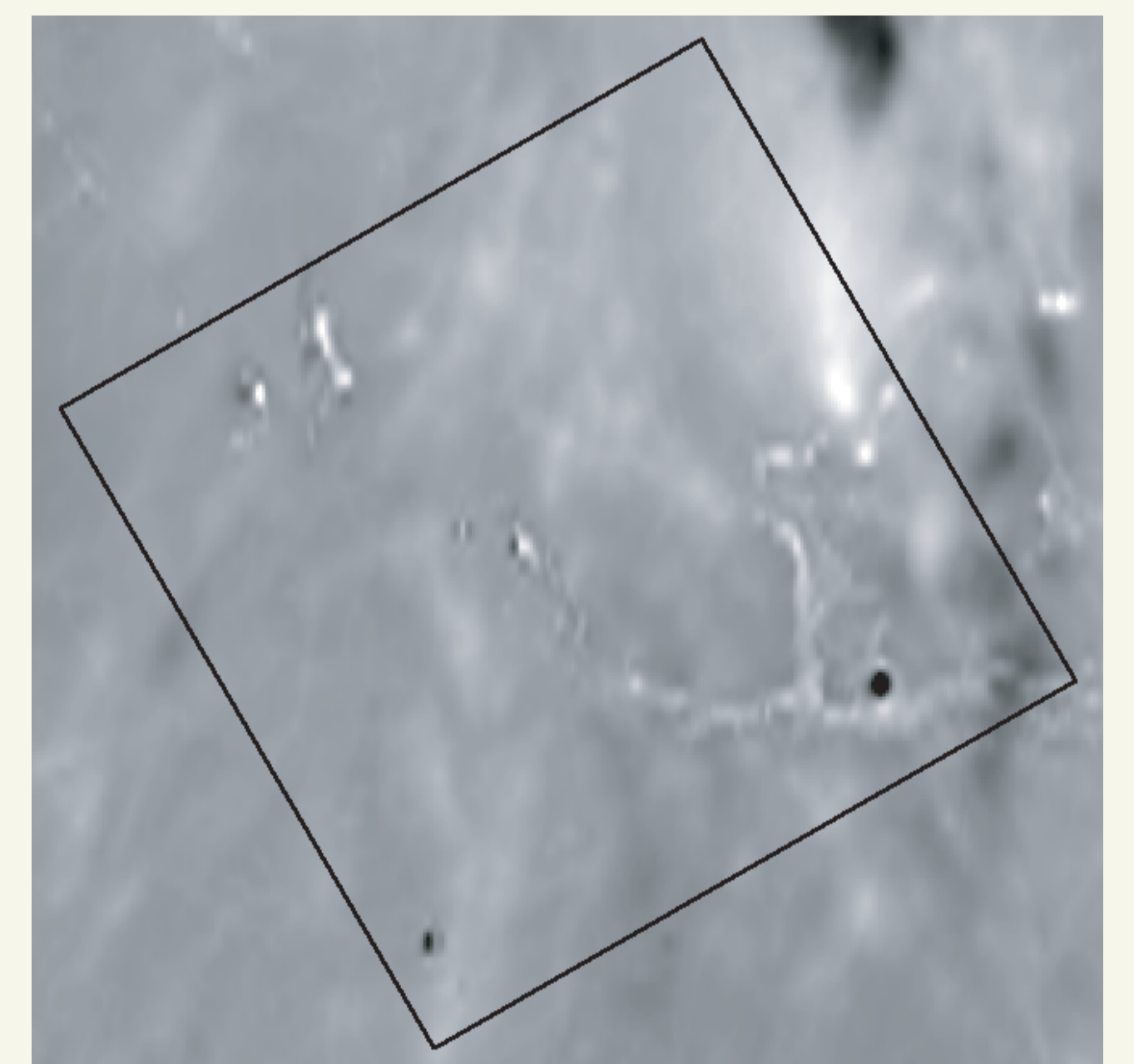


A - aerial photography interpretation and detailed ground work

B - mainly aerial photography interpretation with limited ground work

C - aerial photography interpretation

Scale 1:25,000



1st Vertical Derivative Total Magnetic Intensity (1VD TMI) image of 'El Capitan' showing mapping area.

KEY

TRANSPORTED REGOLITH

Alluvial Sediments

- Aap1** Red sand, silt, clay and minor gravel on an alluvial plain with ephemeral watercourses typically forming broad wash zones. Gravels include lithic clasts and detrital maghemite pisoliths. Open forest of *Callitris columellaris* and scattered *Eucalyptus* spp.
- Aap2** Red sand, silt, clay and minor leucite clasts in shallow, ephemeral watercourses on alluvial valley plains. Woodlands and open woodlands of *Callitris columellaris* and *Acacia aneura*, with abundant *Scierolaena* spp.
- Aap3** Red sand, silt, clay and rounded to sub-rounded maghemite pisoliths (<1.5 cm), and lithic fragments on an alluvial plain with ephemeral watercourses. Minor overbank deposits. Woodland of *Callitris columellaris* and scattered *Eucalyptus* spp.
- Aap4** Sand, silt, clay and large, angular clasts of leucite basalt, lithic clasts, and angular to sub-rounded vein-quartz clasts in shallow (<1 m) ephemeral channels on an alluvial plain. Open woodland of *Callitris columellaris*.
- Aap5** Sand and angular, lithic and quartz clasts on an undulating alluvial plain with shallow (<1 m) ephemeral watercourses. Open woodland of *Callitris columellaris*.
- Aap6** Sand, silt and clay on an alluvial plain with ephemeral watercourses typically forming broad wash zones. Largely disturbed by cultivation with occasional *Eucalyptus* spp.
- Aer** Minor sand, angular leucite (<30 cm), lithic, vein-quartz and rare quartzite clasts in alluvial channels on erosional rises. Open woodland and shrubland of *Grevillea* and *Casuarina* spp., and *Geijera parviflora*.

Colluvial Sediments

- ChEp** Angular lithic and leucite clasts, and angular to rounded maghemite pisoliths (<2.5 cm) on an erosional plain. Colonised by open woodlands dominated by *Eucalyptus* spp., *Geijera parviflora* and *Stipa* grass spp.
- CHer** Large, angular clasts of leucite with minor angular vein-quartz clasts and silicified sediments on erosional rises. Colonised by open shrubland of *Grevillea* and *Casuarina* spp., with *Geijera parviflora* and *Stipa* grass spp.
- ChCf** Partly silicified and ferruginised lithic clasts on a colluvial fan. Open woodlands of *Callitris columellaris* and *Eucalyptus* spp.
- Chpd1** Silty loams, partly silicified lithic clasts and maghemite pisoliths on a mid to lower-slope depositional plain. Minor channel development. Colonised by open woodland of *Acacia* and *Eucalyptus* spp., with *Geijera parviflora* and *Sclerolaena* shrub spp.
- Chpd2** Silty loams, rounded to sub-rounded maghemite pisoliths (<5 mm) and sub-angular quartz and lithic clasts on level to undulating depositional plains. Minor channel development. Colonised by open woodland of *Acacia* and *Eucalyptus* spp., with *Geijera parviflora* and *Sclerolaena* shrub spp.
- CLer** Leucite talus, angular lithic, vein-quartz and quartzite clasts on erosional rises. Minor regolith carbonates. Colonised by closed scrub of *Geijera parviflora* and *Acacia* spp.

IN SITU REGOLITH

Saprolith

- Ser1** Variably weathered bedrock on an erosional rise. Surface lag of lithic clasts and angular to rounded quartz clasts. Lithosols dominate areas of higher relief, with red earths in downslope areas. Colonised by woodlands and forests of *Acacia aneura*, *Eucalyptus* and *Eremophila* spp., and *Stipa* grass spp.
- Ser2** Variably weathered bedrock on an erosional rise. Surface lag of partly silicified bedrock clasts, sub-angular vein-quartz and maghemite pisoliths. Lithosols dominate areas of higher relief, with red earths in downslope areas. Colonised by woodlands and forests of *Acacia aneura*, *Eucalyptus* and *Eremophila* spp., and *Stipa* grass spp.

Moderately Weathered Bedrock

- SMer1** Moderately weathered bedrock on erosional rises. Surface lag of sub-angular ferruginised vein quartz clasts (<10 cm diameter). Colonised by open forest dominated by *Eucalyptus populnea* and *Myoporum platycarpum*.
- SMer2** Moderately weathered bedrock on erosional rises. Minor, irregular surface lag of sub-angular vein quartz and lithic clasts. Soils include carbonate accumulations. Colonised by low open forest dominated by *Apophyllum anomalum*, *Eucalyptus populnea* and *Acacia* spp.

Saprock

- SSh** Slightly weathered bedrock on hills. Minor, discontinuous surface lag of lithic (silicified and ferruginised) bedrock clasts. Colonised by an open woodland with irregular patches of *Callitris columellaris* and *Eucalyptus* spp.
- SSe** Slightly weathered silicified sediments on erosional rises. Silcrete includes partly ferruginised lithic and detrital quartz grains. Minor, irregular surface lag of angular leucite and silcrete clasts, with minor angular vein-quartz clasts. Colonised by low open woodland with *Geijera parviflora* and *Eucalyptus* spp.
- SSv** Slightly weathered leucite lava flows (<25 m thick) overlying variably weathered bedrock and alluvial sediments. Flows are mantled by stony lithosols (<25 cm deep) thickening downslope. Open woodland including *Brachychiton populneus*, *Heterodendrum oleifolium*, and *Callitris columellaris* trees with *Geijera parviflora*, *Sclerolaena* shrub spp., *Centaurea* forb spp., and *Cucumis mynicarpus* vines.
- SSw** Slightly weathered leucite vent (scoria may be present) mantled by stony lithosols. Minor, scattered communities of *Brachychiton populneus* and *Heterodendrum oleifolium*.

- Regolith-landform boundary
- Property track
- Creek
- Dam

LANDFORMS

DEPOSITIONAL LANDFORMS

- ap Alluvial plain
- cf Colluvial fan
- pd Depositional plain

EROSIONAL LANDFORMS

- ep Erosional plain (<9 m relief)
- er Erosional rise (9-30 m relief)
- eh Hills (90-300 m relief)

Map compiled by Osvaldo R. González - CRC LEME University of Canberra, Honours 2001

Acknowledgements: Dr. K.G. McQueen, Dr. I.C. Roach, S.M. Hill and M. J. Spry (CRC LEME? University of Canberra).

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Map Base: Sussex (8135) 1:100,000 scale topographic map, Sussex (SH551403-4) 1:50,000 scale colour aerial photographs and the 1000 m Australian Map Grid, Australian Geodetic Datum 1966 (AGD 66) Zone 55.



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