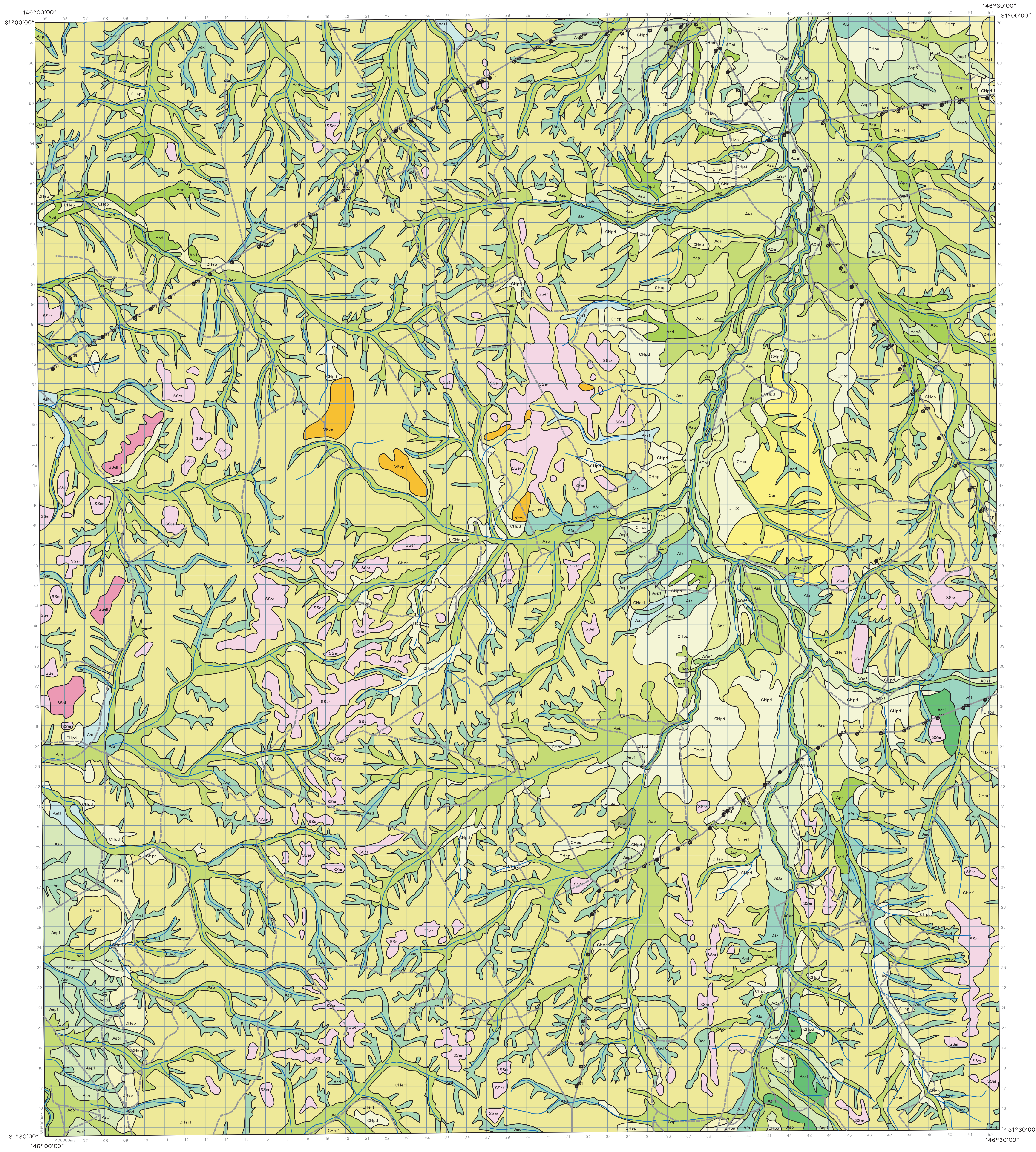
SUSSEX

REGOLITH-LANDFORMS
NEW SOUTH WALES

SCALE 1:100 000



TRANSPORTED REGOLITH

Alluvial sediments

Alluvial sediments

Aap	*Alluvial plains with intermittent deposition, including floodouts, of alluvial sediments, predominantly quartzose and lithic silts, sands and gravels. Minor tributary alluvial plains often have steeper gradients than trunk streams and major tributaries. Alluvial sediments overlie palaeosediments in places.*
Apd	*Depositional plains with diffuse alluvial sediments on plained saprolith (variably weathered bedrock) or palaeosediments substrate within trunk stream valleys or on very low interfluves between trunk distributary valleys.*
Aat1	*Alluvial terraces in trunk stream valleys with aggradational alluvial sediments and minor colluvial sediments which overlie palaeosediments in places.*
Afa	*Alluvial fans, both individual and coalescing, on variable gradients with fan deposits fining distally.*
Aas	*Stagnant alluvial plains associated with confluent trunk streams with alluvial sediments and underlying palaeosediments, especially associated with Mulga Creek and its tributaries.*
Aed	*Erosional depressions associated with headwater tributaries with alluvial sediments along valley thalweg and saprolith valley sides. Palaeosediments form substrate in places.*
Aep1	*Erosional plains with widespread palaeoalluvial sediments containing ferruginous pisoliths and fragments as a surface lag or buried at depth.*
Aep3	*Erosional plains with widespread ferruginous- and quartzose-rich palaeoalluvial sediments which may occur as a lag in places.*
Aer1	*Rises with widespread palaeoalluvial sediments containing ferruginous pisoliths and fragments as a surface lag or buried at depth.*

Channel deposits

ACar	*Alluvial ephemeral meandering channels with intermittent deposition of channel sediments which overlie palaeosediments in places.*

Overbank deposits

AOaf	*Alluvial flood plains with intermittent deposition of overbank sediments which overlie palaeosediments in places.*

Paludal sediments

Paw	*Swamps, isolated and small, with fine-grained paludal sediments.*

Colluvial sediments

Colluvial sediments

Cer	*Rises to erosional plains with rounded crests adjacent to Mulga Creek draped with colluvial sediments over saprolite (more highly weathered bedrock). Colluvial sediments may in part be derived from palaeosediments.*

Sheet-flow deposits

CHpd	*Depositional plains, including minor colluvial fans, with sheet-flow deposits of predominantly lithic and quartz sands and gravels, which thicken down slope and cover palaeosediments in places.*
CHep	*Erosional plains with rounded to angular crests with sheet-flow deposits of predominantly lithic and quartz sands and gravels, thickening downslope and which overlie palaeosediments in places. Saprolith subcrop and outcrop common on crests and upper slopes.*
CHer1	*Rises with subrounded to angular crests with sheet-flow deposits thickening downslope which overlie palaeosediments in places. Less weathered bedrock (saprock) crests and upper slopes, commonly with lag, including silicified bedrock clasts and ferruginous pisoliths in places. Extensive quartzose-rich sediments in the north, possibly derived from Aer2. Dry valleys crossing drainage divides are common.*

IN-SITU REGOLITH

Saprolith

Saprock

SSer	*Rises, commonly with angular ridge crests, with saprock outcrop and lithosols.*
SSel	*Low hills, commonly with angular ridge crests, with saprock outcrop and lithosols.*

LAVA

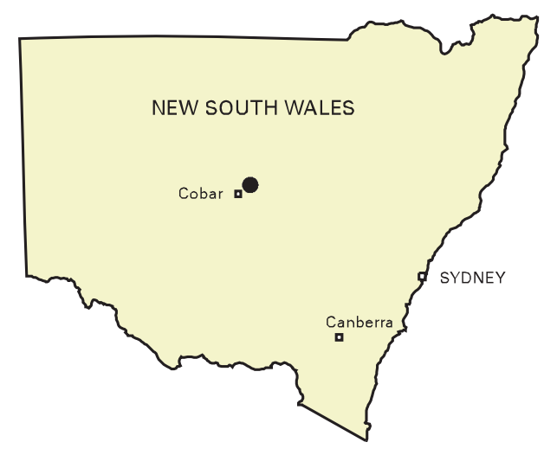
VFvp	*Volcanic plateaus with slightly weathered leucitite basalt flows and vent mantled by lithosols. Lava flows overlie variably weathered bedrock and alluvial sediments. Volcanic plateaus rimmed by rises with leucitite basalt derived talus and sheet-flow deposits.*

LANDFORMS

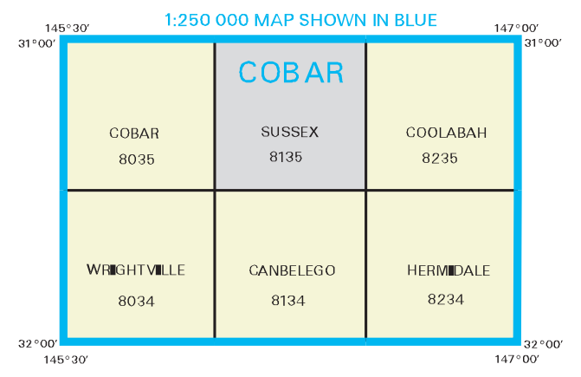
pd	Depositional plain	aw	Swamp
ap	Alluvial plain	ed	Drainage depression
af	Flood plain	ep	Erosional plain
as	Stagnant alluvial plain	er	Rise
at	Alluvial terrace	el	Low hill
fa	Alluvial fan	vp	Volcanic plateau
ar	Alluvial channel		

▬	Regolith-landform unit boundary
▬	Highway
—	Secondary road
- - -	Vehicle track
—	River or creek
⊗	Aircore drill hole (CBAC)

MAP LOCALITY



INDEX TO 1:100 000 MAPS



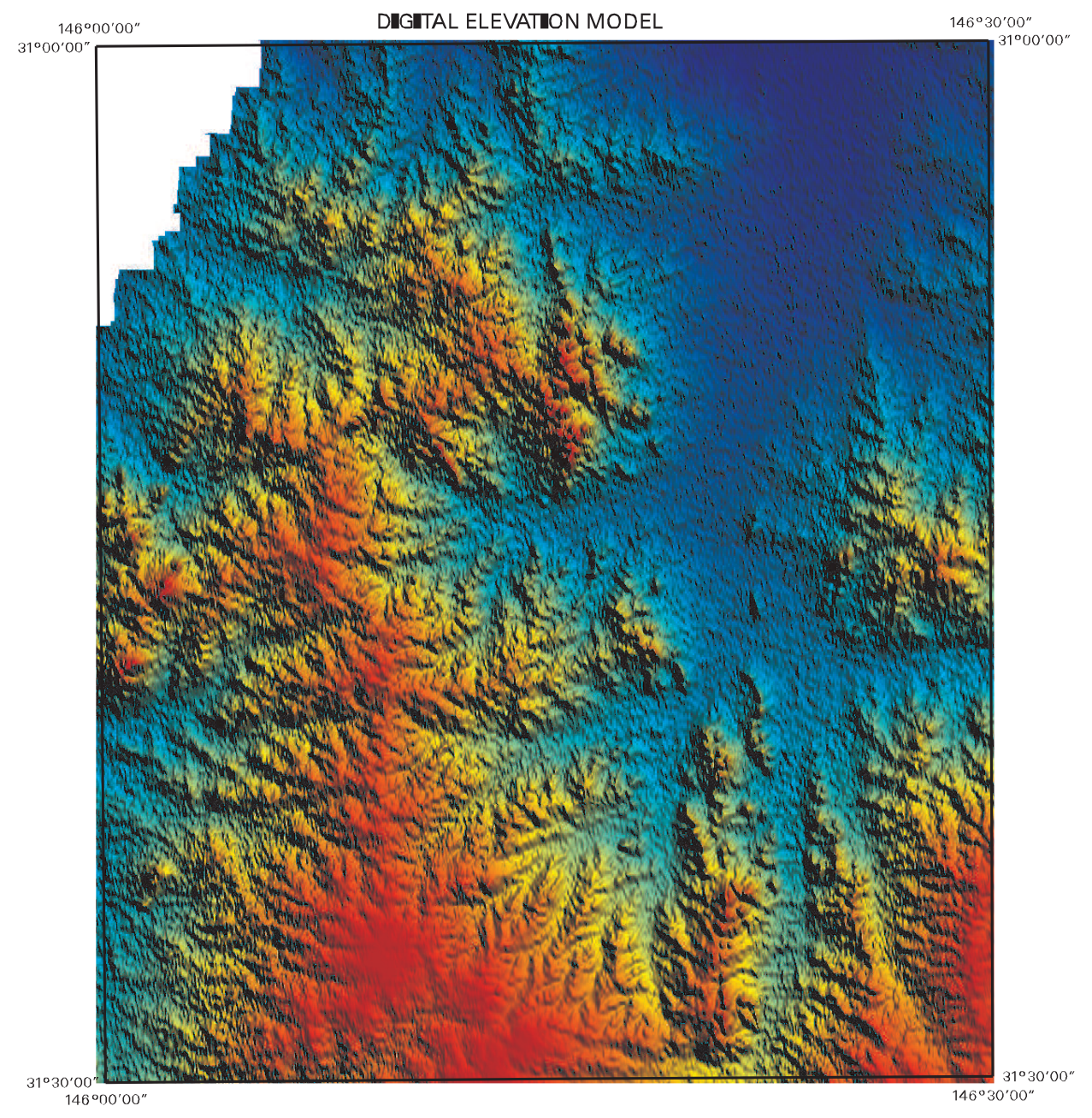
SCALE 1:100 000

1 0 1 2 3 4 5 6 7 8 9 10

Kilometres

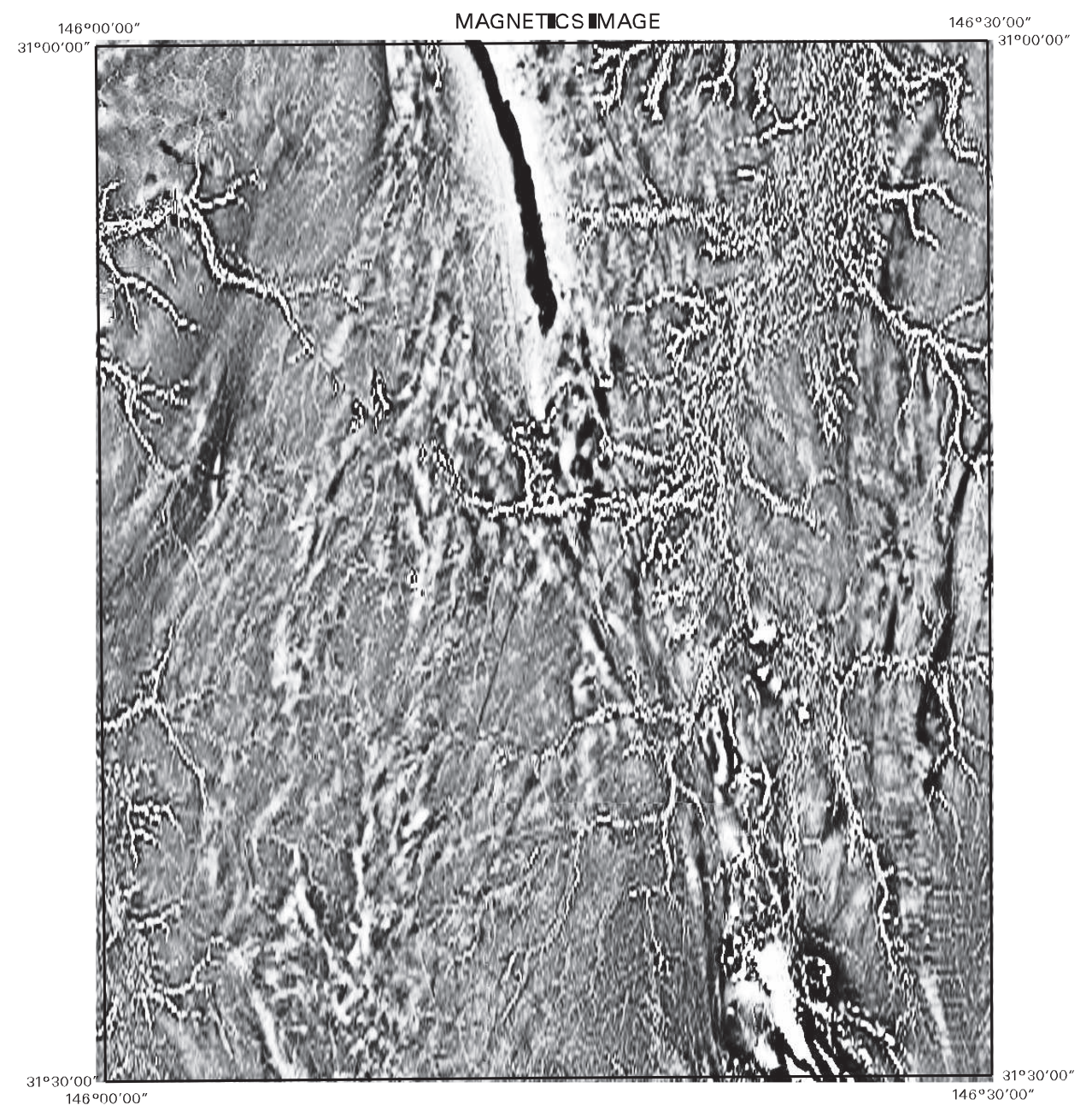
UNIVERSAL TRANSVERSE MERCATOR PROJECTION
Latitude of Origin 0° Longitude of Origin 147°
Datum GDA94 MGA grid zone 55

DIGITAL ELEVATION MODEL



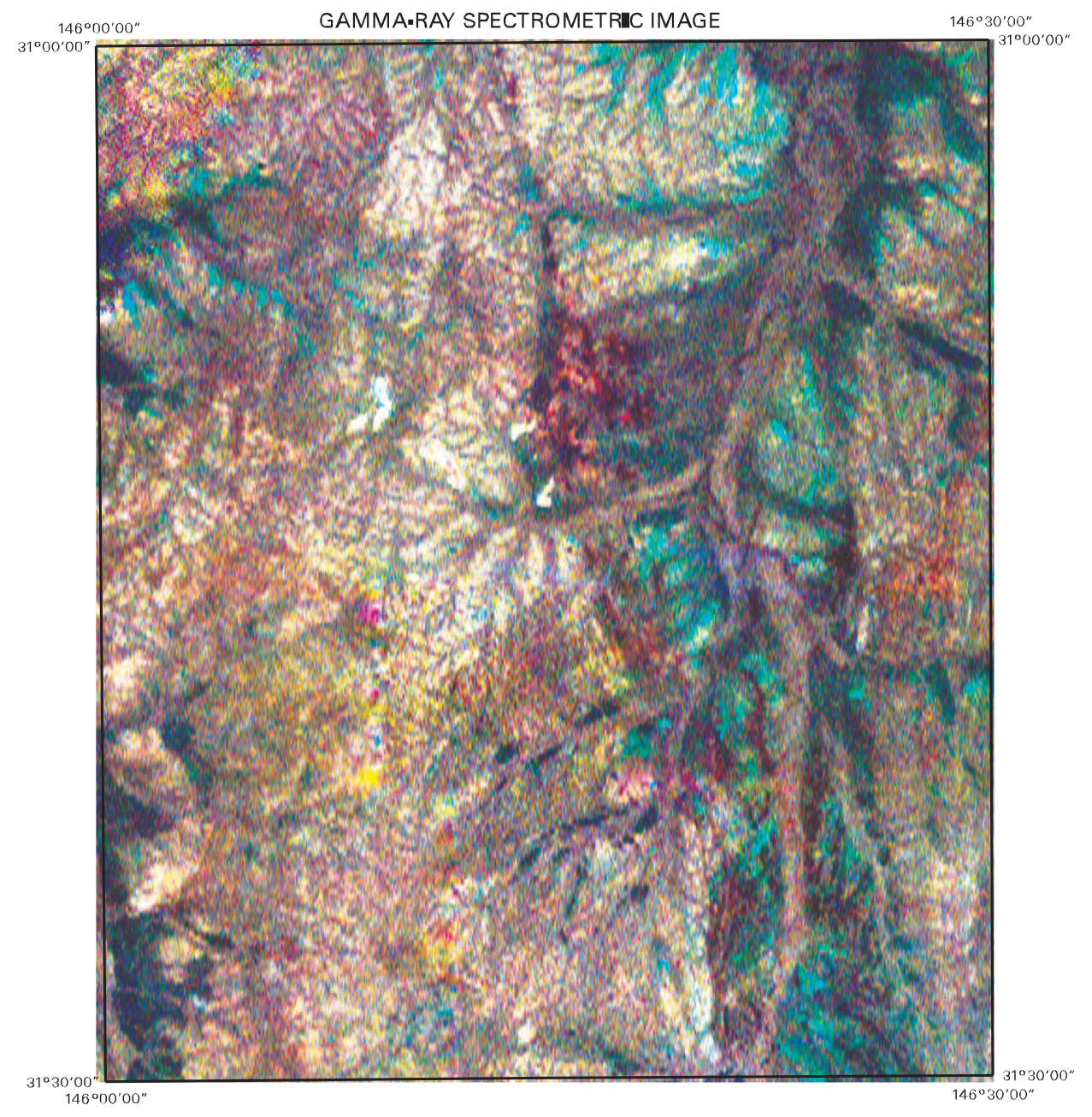
False colour Digital Elevation Model of the Sussex area. Maximum elevations shown in red and minimum elevations shown in blue with a range from 330m asl to 172m asl.

MAGNETICS IMAGE



Fractional vertical derivative (1.5) of total magnetic intensity reduced to pole, greyscale: white high, black low

GAMMA-RAY SPECTROMETRIC IMAGE



Three-band gamma-ray spectrometric image (potassium in red, thorium in green, uranium in blue) of the Sussex area.

Compiled by B.E.R. Maly, R.A. Chan (CRC LEME / GA), and A. Senior (CRC LEME / ANU), 2002-04.

Cartography and GIS by G. Tobin, GAV Unit, Geoscience Australia.

It is recommended that this map be referred to as:
Maly B.E.R., Chan R.A. and Senior A., 2004, Sussex Regolith-Landform Map (1:100 000 scale), Cooperative Research Centre for Landscape Environments and Mineral Exploration.

Regolith-Landform Mapping Scheme:
The regolith-landform units portray dominant regolith-landform associations and their inherent geomorphic settings as outlined in RTMAP Regolith Database Field Book and Users Guide (Pain C. et al., in prep. for 2nd edition, CRC LEME Report 138; see CRC LEME Web Site). The regolith-landform letter symbols are indicative, such that the capital letter symbols indicate dominant regolith type, and the lower case letter symbols indicate dominant landform type (see also Landforms table in map surrounds). The numeric suffix indicates the unit is a subset of a dominant regolith-landform association. Map unit descriptions are stored in RTMAP national database at Geoscience Australia.

The regolith-landform polygons on this map are based on interpretation of 1:82 000 scale black and white aerial photographs, imagery from airborne gamma spectroradiometrics, magnetics and digital elevation model, along with limited field truthing. It is the intention of this map to identify and characterise surficial materials and processes in a little known, but potentially prospective, area with widespread regolith cover.

Source of data: The geophysical imagery, drainage and cultural data were obtained from the New South Wales Department of Mineral Resources as part of the Discovery 2000 Initiative. The drainage and cultural data are taken from 1:250,000 scale topographic mapping.

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Copies of this map may be obtained from:

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Horizontal coordinates on this map are based on the new earth-centered GEOCENTRIC DATUM OF AUSTRALIA (GDA)
To convert GDA to AGD (around 10 metre accuracy):
Geographicals (from GDA94 to AGD66/84) - Add 5.58" to latitude (S); Subtract 4.38" from longitude (E)
UTM grid coordinates (from MGA94 to AMG66/84) - subtract 184m from Northing; subtract 113m from Easting

CRCLEME
Cooperative Research Centre for
LANDSCAPE ENVIRONMENTS
and MINERAL EXPLORATION

SUSSEX

REGOLITH-LANDFORMS

FIRST EDITION 2004

SUBJECT TO REVISION

MINERAL
RESOURCES
NEW SOUTH WALES