BUREAU OF MINERAL RESOURCES, GEOLOGY AND GEOPHYSICS

RECORD

RECORD 1986/27

THE REGOLITH TERRAIN MAP OF AUSTRALIA 1:5 000 000

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CONTENTS

SUMMARY

Australia has been divided into 392 regolith terrain units on the basis of dominant topography, geology and regolith (soils, weathering profiles and surficial deposits). The regolith terrain units are depicted on a map at 1:5 000 000 scale which serves as an index to a set of data cards on which each unit is described in a standard format. The map and cards thus provide a data base of regolith terrain description for the whole continent.

INTRODUCTION

The Definition of Regolith

Regolith is a general term for the layer or mantle of fragmental and unconsolidated rock material, whether residual or transported, that nearly everywhere forms the surface of the land and overlies or covers bedrock. It includes rock debris of all kinds including saprolite (weathered rock in place), volcanic ash, glacial drift, alluvium, aeolian deposits, vegetal accumulations, and "soil."

"Soil" is itself very difficult to define, as it is used in different senses by agriculturalists and engineers. There is a definition problem with sediments, which may extend to hundreds of metres in a sedimentary basin. Another problem is that some regolith is not unconsolidated but is very hard, as in the case of silcrete and other duricrusts. These problems of definition will not be pursued here: most workers in the field have a pragmatic feel about what is regolith.

The need to study the regolith

The regolith is important for at least three reasons. Firstly it is of intrinsic scientific importance, especially in Australia, where so much of the continent is covered in thick regolith and where much of the later geological history of the continent is recorded. Secondly, some regolith materials are of economic importance, such as bauxite, uraniferous calcrete, opal, or kaolin, and in other cases the regolith hosts economically

important materials such as gold, diamonds, tin, or groundwater. Thirdly, over large areas the regolith is a barrier between mineral explorers and their targets, and they would like to have more understanding of this barrier to enable them to ask the right questions. The mineral industry, and notably Western Mining, had made strong appeals for regolith research to be undertaken by CSIRO, and later by BMR. BMR initiated a regolith project partly in response to this request from industry.

Regolith studies

In the past some detailed studies of specific regolith problems have been undertaken by BMR but it was apparent that the national earth science research institute - the BMR - should take a broader view, with a nationwide coverage and a study of fundamental problems, as well as being concerned about local industrial problems. The chosen strategy for regolith research was therefore to study details of the regolith in specially favourable sites (such as deep open pit mines) or where suitable data were available, and to extrapolate regolith mapping by regional landscape studies.

It is also desirable to integrate the large amount of regolith information already available. A data base is required, and this should be related to localities through a map. The first function of a regolith map should therefore be as an adjunct to a data base. Indeed, given present day computer technology, maps and tabulation of data can be seen as part and parcel of the same data base.

But there is a second reason for wanting regolith maps: there is a large amount of available information on some areas, but other large areas are virtually unknown from a regolith point of view. It was felt necessary to produce a regolith map of the whole continent, so that knowledge could be factually based and not extrapolated from a few well-known areas. Any interpretations of the regolith of the continent as a whole need to be based, so far as possible, on an unbiassed record of the distribution of the regolith in all parts of the continent. With such an overview, detailed studies can be seen in context. The regolith work aims to follow the classic survey principle of working from the whole to the part. In the words of Dr Johnson "Particulars are not to be examined till the whole has been surveyed." We may not always know what we are mapping, but we hope to take advantage of Lapworth's dictum: "Map it, and it will all come out right."

Regolith mapping

There is no easy way to map regolith. There is not even an easy way to map soils, which are only the surface of the regolith and ignore the wealth of regolith detail at depth.

Soil maps for agricultural purposes can only be made on large scales: about 1:50 000 is the smallest effective scale in most areas. Soil maps of larger areas at smaller scales require abstraction, and the mapping of surrogate units (such as "landscape" units), which have some relationship to the dominant soils.

The regolith is not only concerned with the soil, but also the tens of metres of unconsolidated deposits or weathered rock that may underlie the soil. This varies across the earth's surface at least as much as the surface soil, but also varies in depth, water-holding capacity, geochemical and geophysical variation, and the number of layers that comprise the regolith profile. The only way to map it is through regolith terrain units.

Regolith terrain units classification

Regolith terrain units are areas of land which have many details of the landscape and regolith in common, and differ from other areas. The regular sand dunes of the Simpson Desert are an obvious unit. If some detailed knowledge of one dune is available, it can be extrapolated to other dunes with some confidence. Young lava flows make another clear unit. The Channel Country might be another. Not all regolith terrain units are that easy to delineate, and there are technical works on the methodology of producing such maps (Mitchell, 1973; Ollier, 1977; Cooke and Doornkamp, 1974). Such maps often serve as surrogate maps for many other purposes, including military travel maps, base maps for highway engineering, agricultural development, or town planning. They should also be useful for mineral exploration.

But although there are textbooks on the technique of terrain classification, and many examples can be cited, the method is not yet routine. It is itself a research area, and to some extent the maps will vary with the individual researcher, as well as

with the level of data available. Individual authors have made a brief statement of their methods, and individual "cards" of data have the initials of the worker who derived them.

Several maps of landscape units of Australia are already in existence. The CSIRO Soils Atlas of Australia is such a map. The continent is mapped at 1:2 000 000, and the units depicted are labelled on the map with alphanumeric codes such as T1. Legend 1 on the map shows that this is "Hard acidic yellow mottled soils: unbleached Az horizon..." This unit is a subset of "hard setting loamy soils with mottled yellow clayey subsoils (Dy3)" which is in turn a subset of "III Soils with contrasting (duplex) texture profiles (D)." However, the soil unit number, such as Ta1, can be looked up in Legend 2, in an accompanying booklet, where it is found that the unit is a landscape unit. Our example, Ta1, is simply described as "Mountainous." (This unit is roughly equivalent to Unit 52, Beech on the BMR Hamilton Regolith Terrain map). Other units are G1, roughly equivalent to our Unit 33, Eccles, which is "Friable loamy soils of various kinds" and "stony rises ... with dark shallow porous soils..." and D4, equivalent to Unit 20, Grampian, is "Coherent sandy soils", and "Hilly to mountainous: rock outcrops and shallow grey-brown sandy soil."

The emphasis on surface features made the selection of units for the Soils Atlas different from those that were considered desirable for the BMR Map.

The CSIRO Division of Land Research (later Land Use Research, and Water and Land Resources) produced an excellent series of terrain classification maps, but the cover of Australia was incomplete and scattered.

The most complete map of Australian landforms is the map of Jennings and Mabbutt (1986). This is at a scale of only 1:20 000 000, so it cannot convey enough detail for regolith purposes. The individual units are described in just a couple of lines, such as:-

69.West Victorian Plains - plains mainly on basalt lavas with many volcanic forms and lakes: partly on weak sedimentary rocks.

118. Riverine Plain - alluvial plain.

Other examples of Terrain Classification maps include those produced by the Soil Conservation of Victoria, and the Land Conservation of Victoria. In South Australia a ten volume report on Environmental Regions of South Australia was produced by CSIRO. In Western Australia the Vegetation Survey (e.g. Beard, 1974), while not itself a terrain classification, has many boundaries that are equivalent to those of landscape units. There are many other similar maps. All these sources were utilised in devising the Regolith Terrains Map of Australia, but because of their inconsistent keys none of them could be adopted in its entirety.

It was felt that a terrain classification map at a suitable scale would be the best base for a regional description of regolith in Australia. It would also serve as the spatial or geographic basis for a data base of regolith information. Such a data base could make provision for data which are available today, and that which will become available in the future. There is much information available already on the regolith in Australia, but there is no systematic way of integrating it into a regional scene. In fact there is probably a need for two kinds of maps, both made on the same principles of Terrain Classification. One is for all Australia, so that the data base is nation-wide. There are obvious advantages in covering the whole country, but the units may be too coarse to be useful in a practical way, and so there is a need for another kind of map on a larger scale, so that more detail can be shown. It was thought that 1:1 000 000 might be a useful scale.

Remote sensing imagery and other sources of data

Another source of data for the compilation of a regolith terrain map is remote sensing imagery, whether derived from satellite or plane. At present there is a super-abundance of images, but little information on the meaning and reliability of all the information they contain. At the BMR we devised a simple technique for use with imagery. The image is first obtained, together with any data on what the signals are supposed to mean. The major features are checked on the ground, and a rough estimate made of the degree of match between image units and actual regolith units. Then, in hindsight, knowing what the

ground truth really is, a better interpretation is made. This too will be imperfect, but better than the first effort, and the degree of fit can agin be estimated. It is hoped that repeated quantification of ground-truth will lead to two results - better interpretation of images, and better understanding of the regolith. It must be remembered that most imagery systems are only looking at the top surface of the ground or its vegetation cover. But there are geophysical image systems that can potentially penetrate to greater depths.

Another very valuable source of information for regolith mapping is the small scale imagery obtained from satellites. LANDSAT is the best known of these, but BMR has incomplete cover. The major disadvantage, however, is the large number of scenes needed to cover the whole country, and there were insufficient people on the project to work on this scale. Much coarser images are available from the US National Oceanographic and Atmospheric Administration (NOAA), TIROS and Nimbus 7 satellites. The senors on board these two spacecraft are the 5 channel "advanced very high resolution radiometer" (AVHRR), and the 6 channel "coastal zone colour scanner" (CZCS). The ground resolution of these two devices is 1100 and 825 m respectively. Although the CZCS instrument is essentially an oceanographic instrument, 4 of the 6 channels are extrememly useful for onshore applications. Hard copy images at this small scale are especially helpful in defining major units. Occasionally the imagery would reveal totally new features of regolith distribution.

At the present time the BMR has produced three regolith maps:

1. Regolith Terrain Map of Australia at 1:5 000 000.
2. Regolith Terrain Map of Kalgoorlie at 1:1 000 000.
3. Regolith Terrain Map of Hamilton at 1:1 000 000.

Regolith Terrain map of Australia

The Regolith Terrain Map of Australia was produced by a wide range of techniques as described above, by several people.

G.Taylor worked in the early stages of the project, and defined several areas using CZCS imagery supplimented by other sources of information such as "Environments of South Australia", the Atlas of Australian Soils, and topographic and geological maps.

M.A. Craig continued the database preparation for much of southeastern Australia working from Taylor's earlier defined areas and used similar information sources but in addition made use of a wide variety of published articles relating to the various areas defined. The database descriptions bear the initials of the contributors, with the main contributor listed first.

D.L. Gibson produced the map of Queensland, the northern part of Western Australia, and much of central and South Australia. He was mainly responsible for setting up the data base.

G. D'Addario produced the map of Western Australia and the Northern Territory, delineating regions by their prevailing

landform type. He worked jointly with D. Gibson on the Canning Basin and with G. Taylor on the Officer Basin. A variety of geological, geographical and geomorphological parameters were used in various combinations to define the units within geotectonic (structural) units. Main parameters were: relative relief; rock type; soils; depositional, erosional and complex (erosion and deposition) areas. Drainage and vegetation were used occasionally. Little use was made of satellite imagery, which was not available at the time except for part of the Northern Territory.

R.A. Chan worked on early stages of the Map. With Gibson and Taylor she produced a trial 1:2 500 000 compilation of physiographic/regolith units based on 1:1 000 000 topographic maps. With G. Taylor, R. Moore and the CSIRO Division of Water and Land Resources she helped in the rectification and production of Nimbus CZCS imagery.

C.D. Ollier produced the map of Tasmania. More use was made of topographic maps in this area than is usual, together with geological information, as Quaternary glaciation has removed regolith over large areas of the State.

With the exception of G. Taylor, the people who made the map also prepared the data base information. Their initials are on each description. In future, if the data base continues to be upgraded and corrected, further names can be added.

The map shows the location and boundaries of the reolgith terrain units; details are given in the descriptions that follow. The names of units are based on a local place name: this may reflect a major feature or location, but often when the most suitable name has already been used or where no suitable place name is available, little-known names have been used.

STRUCTURE OF THE REGOLITH DATABASE

The regolith database was set up by D. Gibson using the KNOWLEDGEMAN database package on a Sirius II microcomputer with a peripheral hard-disk. The database consists of 392 records, corresponding to the 392 named units used on the Regolith map and described in this report. Each record consists of 19 fields, all of which are string in type, and are detailed in the following table.

FIELD NAME	LENGTH	INFORMATION CONTAINED
NAME	65	Name of unit
NUMBER	10	Number of the unit
STYLE	65	
BASICFOR	145	
SOIL	385	Types of soils in unit
NORTHCOT	65	Soils association, from 'Atlas of Australian Soils'
DESCRIPT	545	Description of unit
REGOLITH	705	Description of regolith of unit
GEOLOGY	705	Description of geology of unit

ELEVATIO	145	Elevation range of unit, in metres
RELIEF	145	Relative relief; very low is <2m; low 2 - 10m; moderate 10-100m; high 100 - 500m; very high >500m.
MINORLAN	305	Minor landforms within unit
BOUNDARI	685	Boundaries of unit
REFERENC	225	References to unit
TOPOMAPS	65	Topographic maps showing unit
GEOLMAPS	145	Geological maps showing unit
OTHERSOU	225	Other sources of information about unit
COMMENTS	225	Additional comments, including economic importance
COMPILER	30	Compilers initials and date of compilation

The total size of the data base is about 1.92 MB, each record being 4893 bytes long. The implemented database is wasteful of disk storage space, however the use of a hard-disk meant that this was not of great concern, and the time available did not allow a more efficient database to be designed.

Copies of the database on 13 cm. Floppy disks can be supplied to interested workers by writing to:

The Chief,
Division of Continental Geology,
BMR Box 378,
CANBERRA.

The database can be supplied on either Sirius or IBM PC floppy disks and in three different formats:-

1. - As KNOWLEDGEMAN data files, with the original database split into separate files to suit the capacity of the floppy disks

2. - As ASCII format files. Each field of a record is enclosed in quotes, with a CR/LF at the end of each field and an additional CR/LF between records. Empty fields contain "***" in case a database program into which the data is being imported does not recognize blank lines. Each file contains 50 records, with the eighth file containing 42 records to complete the 392 records.

3. - As Wordstar text files in the format used for the printouts in this report. Again, the data is split into seven files of 50 units and one of 42 to make editing simpler.

NAME:	TORRES
NUMBER:	1
STYLE:	Erosional
BASIC FORM:	Low hilly islands
SOILS:	Shallow stony loams (Um2), bleached sands (Uc2.2)
SOILS ASSOCIATION:	Fu28, Ca41
DESCRIPTION:	Low hilly islands with fringing coastal swamps
REGOLITH:	Colluvial and residual sands, coastal deposits; minor ferruginous duricrust on Moa and Mount Adolphus Islands
GEOLOGY:	Carboniferous volcanics
ELEVATION:	0 - 200
RELIEF:	Low - moderate
MINOR LANDFORMS:	Coastal swamps, sand cays
BOUNDARIES:	Coastline
REFERENCES:	Willmott & others (1973), Smart & others (1980)
TOPOGRAPHIC MAPS:	Torres Strait 1:1m
GEOLOGICAL MAPS:	Torres Strait - Boigu - Daru 1:250 000; Carpentaria and Karumba Basins 1:1m
OTHER SOURCES:	
COMMENTS:	Minor alluvial gold has been mined at Horn Island
COMPILER:	DLG, Nov 1985

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NAME:	BAMAGA
NUMBER:	2
STYLE:	Erosional
BASIC FORM:	Tableland
SOILS:	Red earths (Gn2.1)
SOILS ASSOCIATION:	Mz34
DESCRIPTION:	Dissected laterite plateau
REGOLITH:	Ferruginous duricrust, minor bauxite; minor coastal deposits. At least two levels of ferruginous duricrust recognised by Willmott & Powell (1977a). In many places the duricrust consists of a conglomerate of ferruginised sandstone blocks set in a honeycombed ferruginous matrix, and is up to 12m thick
GEOLOGY:	Mesozoic sandstone of the Carpentaria Basin, overlying Carboniferous volcanics. Overlain by Cainozoic units
ELEVATION:	0 - 140
RELIEF:	Moderate
MINOR LANDFORMS:	Coastal swamps, hills
BOUNDARIES:	Southern boundary is the limit of Duricrust outcrop
REFERENCES:	Willmott & Powell (1977a)
TOPOGRAPHIC MAPS:	
GEOLOGICAL MAPS:	Torres strait - Boigu - Daru 1:250 000; Carpentaria and Karumba Basins 1:1m
OTHER SOURCES:	Atlas of Australian Soils
COMMENTS:	
COMPILER:	DLG, Nov 1985

NAME: JARDINE
NUMBER: 3
STYLE: Depositional/erosional
BASIC FORM: Plain
SOILS: Leached sands (Uc2.2), red earths (Gn2.1)
SOILS ASSOCIATION: Ca43, Mw56
DESCRIPTION: Low lying plain with large alluvial tracts, coastal swamps, and low rises
REGOLITH: Alluvium, coastal sediments (mainly muds, some aeolian sand), residual sand
GEOLOGY: Mesozoic sandstone of the Carpentaria Basin, overlain by Cainozoic units
ELEVATION: 0 - ?40
RELIEF: low - very low
MINOR LANDFORMS: Minor aeolian dunefields along coast
BOUNDARIES: Units to the north and south are higher in elevation
REFERENCES: Smart & others (1980), Willmott & Powell (1977a), Powell & Smart (1977), Day & others (1983)
TOPOGRAPHIC MAPS: Torres Strait 1:1m
GEOLOGICAL MAPS: Torres Strait - Boigu - Daru, Orford Bay 1:250 000; Carpentaria and Karumba Basins 1:1m
OTHER SOURCES: Atlas of Australian Soils
COMMENTS:
COMPILER: DLG, Nov 1985

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NAME: ESCAPE
NUMBER: 4
STYLE: Erosional
BASIC FORM: Plain
SOILS: Mottled yellow earths (Gn2.64)
SOILS ASSOCIATION: Mt9
DESCRIPTION: Sand-covered plain
REGOLITH: Ferruginous duricrust, minor bauxite, residual sand
GEOLOGY: Jurassic sandstones of the Carpentaria Basin
ELEVATION: 0 - 60
RELIEF: Low
MINOR LANDFORMS: Coastal plains and sand dunes
BOUNDARIES: Edge of area of duricrust
REFERENCES: Powell & Smart (1977), Day & others (1983)
TOPOGRAPHIC MAPS:
GEOLOGICAL MAPS: Carpentaria and Karumba Basins 1:1m; Orford Bay 1:250 000
OTHER SOURCES:
COMMENTS:
COMPILER: DLG, Nov 1985

NAME:	RICHARDSON
NUMBER:	5
STYLE:	Erosional
BASIC FORM:	Tableland
SOILS:	Yellow earths (Gn2.2), mottled yellow earths (Gn2.64)
SOILS ASSOCIATION:	Mt9, Mr21
DESCRIPTION:	Dissected tableland, with rounded sandy hills and deeply incised valleys
REGOLITH:	Minor ferruginous duricrust, minor coastal aeolian sand
GEOLOGY:	Mesozoic sandstone of the Carpentaria Basin
ELEVATION:	0 - 150
RELIEF:	Moderate
MINOR LANDFORMS:	Aeolian dunefields along coast
BOUNDARIES:	Higher than units to the east and north, different geology, soils and topography to units to the west
REFERENCES:	Smart & others (1980), Powell & Smart (1977), Doutch & others (1973), Day & others (1983)
TOPOGRAPHIC MAPS:	
GEOLOGICAL MAPS:	Orford Bay, Cape Weymouth, Jardine River 1:250 000; Carpentaria and Karumba Basins 1:1m
OTHER SOURCES:	Atlas of Australian Soils
COMMENTS:	
COMPILER:	DLG, Nov 1985

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NAME:	SHELBURNE
NUMBER:	6
STYLE:	Depositional
BASIC FORM:	Dunefield
SOILS:	Siliceous sands (Uc1.21)
SOILS ASSOCIATION:	B36
DESCRIPTION:	Area of northwest-trending sand dunes, often with elongated parabolic form
REGOLITH:	Aeolian siliceous sand; minor coastal muds
GEOLOGY:	Mesozoic sediments of the Carpentaria Basin, overlain by Cainozoic deposits
ELEVATION:	0 - 100
RELIEF:	Moderate
MINOR LANDFORMS:	Vegetated sand plains
BOUNDARIES:	Edge of dunefield
REFERENCES:	Willmott & Powell (1977b), Smart & others (1980), Willmott & others (1973), Doutch & others (1973), Powell & Smart (1977), Trail & others (1969)
TOPOGRAPHIC MAPS:	
GEOLOGICAL MAPS:	Orford Bay, Cape Weymouth 1:250 000; Carpentaria & Karumba Basins 1:1m
OTHER SOURCES:	Atlas of Australian Soils
COMMENTS:	Sand is more than 99.8% silica, and is a resource for glassmaking
COMPILER:	DLG, Nov 1985

NAME:	OLIVE
NUMBER:	7
STYLE:	Erosional
BASIC FORM:	Lowland
SOILS:	Mottled yellow earths (Gn2.64), leached sands ((Uc2.21)
SOILS ASSOCIATION:	Mt9, Ca43, JK35
DESCRIPTION:	Low undulating country
REGOLITH:	Residual and colluvial sand, minor coastal sediments
GEOLOGY:	Mesozoic sandstone of the Carpentaria Basin, Palaeozoic volcanics
ELEVATION:	0 - 80
RELIEF:	Low
MINOR LANDFORMS:	Coastal swamps
BOUNDARIES:	Scarps up to units to the north, west and south; distinguished from the Archer unit by the lack of Tertiary sediments in the latter
REFERENCES:	Smart & others (1980), Powell & Smart (1977), Doutch & others (1973)
TOPOGRAPHIC MAPS:	Mitchell River 1:1m
GEOLOGICAL MAPS:	Orford Bay, Cape Weymouth 1:250 000; Carpentaria and Karumba Basins 1:1m
OTHER SOURCES:	
COMMENTS:	
COMPILER:	DLG, Nov 1985

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NAME:	WEIPA
NUMBER:	8
STYLE:	Erosional
BASIC FORM:	Plateau
SOILS:	Red earths (Gn2.1)
SOILS ASSOCIATION:	Mu17, Mw52, Mr21
DESCRIPTION:	Low plateau or plain
REGOLITH:	Bauxite, ferruginous duricrust, minor coastal deposits, overlying deeply weathered Tertiary clayey sands of the Bulimba Formation
GEOLOGY:	Mesozoic sediments of the Carpentaria Basin, overlain by Cainozoic units
ELEVATION:	0 - 140
RELIEF:	Low
MINOR LANDFORMS:	Coastal swamps, alluvial tracts, small circular depressions with claypans
BOUNDARIES:	Limit of bauxite
REFERENCES:	Smart & others (1980), Smart (1977a), Doutch & others (1973), Day & others (1983), Galloway & others (1970)
TOPOGRAPHIC MAPS:	
GEOLOGICAL MAPS:	Torres Strait - Boigu - Daru, Jardine River, Weipa, Aurukun 1:250 000; Carpentaria and Karumba Basins 1:1m
OTHER SOURCES:	CZCS imagery, Atlas of Australian Soils, CSIRO Land Research Series No 26
COMMENTS:	Bauxite mined at Weipa, minor occurrences of heavy mineral sands along coast
COMPILER:	DLG, Nov 1985

NAME:	MERLUNA
NUMBER:	9
STYLE:	Erosional
BASIC FORM:	Plain
SOILS:	Mottled yellow earths (Gn2.61), red earths (Gn2.14), yellow-brown friable earths (Gn3.51)
SOILS ASSOCIATION:	MO4, MW1, Mw52
DESCRIPTION:	Undulating plain with low hills and scarps
REGOLITH:	Outliers of weathered Tertiary clayey sandstone (Bulimba Formation) capped by ferruginous duricrust. Alluvium along rivers
GEOLOGY:	Cretaceous mudstone of the Carpentaria Basin, overlain by Cainozoic units
ELEVATION:	10 - 180
RELIEF:	low - moderate
MINOR LANDFORMS:	Low plateaux
BOUNDARIES:	From geology and soils information
REFERENCES:	Smart & others (1980), Day & others (1983), Doutch & others (1973)
TOPOGRAPHIC MAPS:	
GEOLOGICAL MAPS:	Ebagoola, Coen, Aurukun, Cape Weymouth, Weipa 1:250 000; Carpentaria and Karumba Basins 1:1m
OTHER SOURCES:	Atlas of Australian Soils
COMMENTS:	
COMPILER:	DLG, Nov 1985

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NAME:	WENLOCK
NUMBER:	10
STYLE:	Erosional
BASIC FORM:	Tableland
SOILS:	Red earths, sands, yellow earths
SOILS ASSOCIATION:	Mw52, JK37
DESCRIPTION:	Dissected tableland
REGOLITH:	Residual sand, deeply weathered Mesozoic rocks
GEOLOGY:	Mesozoic sediments of the Carpentaria Basin, some Palaeozoic granite, and minor Precambrian metamorphics
ELEVATION:	100 - 350
RELIEF:	Moderate - high
MINOR LANDFORMS:	
BOUNDARIES:	Limit of dissected sandstones at the margin of the Carpentaria Basin. Eastern boundary is the edge of low-lying units to the east
REFERENCES:	Willmott & Powell (1977), Whitaker & Gibson (1977a)
TOPOGRAPHIC MAPS:	Mitchell River 1:1m
GEOLOGICAL MAPS:	Cape Weymouth, Coen 1:250 000; Carpentaria and Karumba Basins 1:1m
OTHER SOURCES:	Atlas of Australian Soils
COMMENTS:	Minor alluvial gold in area
COMPILER:	DLG, Nov 1985

NAME:	ARCHER
NUMBER:	11
STYLE:	Erosional
BASIC FORM:	Intermontane basin
SOILS:	Leached sands (Uc2.21), grey leached earths (Gn2.94)
SOILS ASSOCIATION:	Ca42, MT19, 20
DESCRIPTION:	Flat-floored intermontane basin, probably a result of faulting and pedimentation
REGOLITH:	Alluvium and residual sand overlie deeply weathered Tertiary clayey sandstone (Falloch and Yam Creek beds). Some ferruginous duricrust
GEOLOGY:	Precambrian metamorphics intruded by Palaeozoic granites, overlain by Cainozoic units
ELEVATION:	70 - 200
RELIEF:	Low
MINOR LANDFORMS:	
BOUNDARIES:	Scarps up to higher country surrounding the basin
REFERENCES:	Whitaker & Gibson (1977a), Smart & others (1980), Day & others (1983), Willmott & others (1973), Doutch & others (1973), Willmott & Powell (1977b)
TOPOGRAPHIC MAPS:	Mitchell River 1:1m
GEOLOGICAL MAPS:	Carpentaria and Karumba Basins 1:1m; Coen, Cape Weymouth 1:250 000
OTHER SOURCES:	CZCS imagery, Atlas of Australian Soils
COMMENTS:	Minor alluvial tin
COMPILER:	DLG, Nov 1985

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NAME:	PASCOE
NUMBER:	12
STYLE:	Erosional
BASIC FORM:	Tableland
SOILS:	Shallow stony sands (Uc4.21), grey leached earths (Gn2.94)
SOILS ASSOCIATION:	JK35, MT21
DESCRIPTION:	Dissected area of moderate relief
REGOLITH:	Minor only (residual sand etc)
GEOLOGY:	Precambrian metamorphics and Palaeozoic volcanics intruded by Palaeozoic granites
ELEVATION:	?200 - ?400
RELIEF:	Moderate - high
MINOR LANDFORMS:	30 km diameter plateau at about 200 m elevation at the head of the Pascoe River
BOUNDARIES:	Higher than the Archer and Olive units to the north and south, lower and less rugged than the McIlwraith unit to the east, and different geology to the Wenlock unit to the west
REFERENCES:	
TOPOGRAPHIC MAPS:	
GEOLOGICAL MAPS:	Coen, Cape Weymouth 1:250 000; Carpentaria and Karumba Basins 1:1m
OTHER SOURCES:	CZCS imagery
COMMENTS:	
COMPILER:	DLG, Nov 1985

NAME:	McILWRAITH
NUMBER:	13
STYLE:	Erosional
BASIC FORM:	Mountain ranges
SOILS:	Friable earths (Gn3.54, Gn3.71), shallow stony sands (Uc4.21)
SOILS ASSOCIATION:	MX1, WM1, JK35, Mj12
DESCRIPTION:	Rugged mountains, high incised plateaux
REGOLITH:	Minor only (colluvium, alluvium, soils etc)
GEOLOGY:	Precambrian metamorphics intruded by Palaeozoic granites
ELEVATION:	0 - 800
RELIEF:	moderate - very high
MINOR LANDFORMS:	
BOUNDARIES:	Scarps to lower surrounding units
REFERENCES:	Willmott & Powell (1977b), Whitaker & Gibson (1977a)
TOPOGRAPHIC MAPS:	Mitchell River 1:1m
GEOLOGICAL MAPS:	Ebagoola, Coen, Cape Weymouth 1:250 000; Carpentaria and Karumba Basins 1:1m
OTHER SOURCES:	Atlas of Australian Soils, CZCS imagery
COMMENTS:	
COMPILER:	DLG, Nov 1985

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NAME:	STEWART
NUMBER:	14
STYLE:	Depositional
BASIC FORM:	Plain
SOILS:	Duplex soils (Dy3.42, Dy3.41), grey friable earths (Gn3.04)
SOILS ASSOCIATION:	Ub108, NV2, MF11
DESCRIPTION:	Low-lying broad alluvial plain
REGOLITH:	Weathered Tertiary clayey sands (Lilyvale beds), overlain by alluvium and residuaL sand
GEOLOGY:	Precambrian metamorphics overlain by Cainozoic units
ELEVATION:	0 - 100
RELIEF:	Low
MINOR LANDFORMS:	Coastal swamps and dunefield at the mouth of the Lockhart River, low rises of residual sand
BOUNDARIES:	Scarps to surrounding higher country. Southern boundary with Jack unit is southern edge of major alluvial tract
REFERENCES:	Whitaker & Gibson (1977a,b), Smart & others (1980)
TOPOGRAPHIC MAPS:	Mitchell River 1:1m
GEOLOGICAL MAPS:	Cape Weymouth, Coen, Ebagoola 1:250 000; Carpentaria and Karumba Basins 1:1m
OTHER SOURCES:	Atlas of Australian Soils
COMMENTS:	
COMPILER:	DLG, Nov 1985

NAME:	MILINGIMBI
NUMBER:	15
STYLE:	Depositional/erosional
BASIC FORM:	Plains with steep ridges, coastal plains, narrow valleys
SOILS:	Yellow earthly sands, ironstone gravels, saline clays
SOILS ASSOCIATION:	AC13,14, In1, JW1, My2
DESCRIPTION:	Gently sloping plains and flat plateaus with low to steep ridges, narrow valleys; swampy plains, gentle sloping low stony hillocks at margins of swamps; low lying coastal plains with some sand dunes
REGOLITH:	Sloping plains with low to steep laterite ridges, laterite (bauxite in places) boulders and lateritic boulders and gravels
GEOLOGY:	Proterozoic sediments, some dolerite dykes (MacArthur Basin), Cambrian sediments (Arafura Basin)
ELEVATION:	Average up to 100 m
RELIEF:	20 m
MINOR LANDFORMS:	Plains broken by hills, ridges and and mesas mainly on sandstones, siltstones or granites, narrow stream valleys, minor calcareous sands and sili
BOUNDARIES:	Surrounded by rocky hills, dissected plateaus, ranges
REFERENCES:	
TOPOGRAPHIC MAPS:	Relief Map of Australia 1:5 m
GEOLOGICAL MAPS:	Australia 1:2.5 m and 1:5 m, Cainozoic of the NT 1:2.5 m, 1:250 000 geological series
OTHER SOURCES:	Relief and Landforms of Australia 1:5 m; Sheet 8 Atlas of Australian Soils
COMMENTS:	
COMPILER:	GWD'A, Nov 1985

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NAME:	MAINORU
NUMBER:	16
STYLE:	Erosional
BASIC FORM:	Rocky hills and dissected plateaus, cliffs and gorges, bare rocks
SOILS:	Shallow sands, gravelly and stony sands
SOILS ASSOCIATION:	BA7-9, JJ28,31, Mb15
DESCRIPTION:	Rough rocky hills and dissected plateaus developed on greywacke, sandstones and conglomerate; some narrow valleys, low to steep hills, ridges and cuestas
REGOLITH:	Bare rocks
GEOLOGY:	Proterozoic sediments, some dolerite dykes (McArthur Basin)
ELEVATION:	Average 100-200 m
RELIEF:	200 m
MINOR LANDFORMS:	Small sandy plains, narrow valleys
BOUNDARIES:	Plains with steep hills, coastal plains
REFERENCES:	
TOPOGRAPHIC MAPS:	Relief Map of Australia 1:5 m
GEOLOGICAL MAPS:	Australia 1:2.5 m & 1:5 m; Cainozoic Geology of the NT 1:2.5 m; 1:250 000 geological maps
OTHER SOURCES:	Relief and Landforms of Australia 1:5 m; Sheet 8 Atlas of Australian Soils
COMMENTS:	
COMPILER:	GWD'A, Nov 1985

NAME:	BING BONG
NUMBER:	17
STYLE:	Erosional/depositional
BASIC FORM:	Broad rises, undulating uplands, shallow valleys
SOILS:	shallow leached sands, yellow earths
SOILS ASSOCIATION:	Cd23,24,26, AC13,15, Mb16
DESCRIPTION:	Gently undulating sandy lateritic country of broad low rises and shallow valleys, broad flat to gently undulating uplands, stony hills and narrow drainage ways
REGOLITH:	Low to steep lateritic ridges, laterite boulders; block laterite outcrops specially on dissected slopes; shallow leached sands overlying block laterite or ironstone gravel at depth of 45-90 cm
GEOLOGY:	Proterozoic sediments of the MacArthur Basin
ELEVATION:	0 - 100
RELIEF:	20 m
MINOR LANDFORMS:	Flood plains, occasional low dunes near the coast
BOUNDARIES:	Surrounded by hills and ridges
REFERENCES:	
TOPOGRAPHIC MAPS:	Relief map of Australia 1:5m
GEOLOGICAL MAPS:	Australia 1:2.5 and 1:5m; various 1:250 000
OTHER SOURCES:	Atlas of Australian Soils
COMMENTS:	
COMPILER:	GWD'A, Nov 1985

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NAME:	EDWARD
NUMBER:	18
STYLE:	Depositional
BASIC FORM:	Alluvialplain
SOILS:	Grey friable earths (Gn3), grey leached earths (Gn2.9), duplex soils (Dy3.43)
SOILS ASSOCIATION:	MF9, TM1, MT17
DESCRIPTION:	Low lying alluvial fan of Edward and Coleman Rivers
REGOLITH:	Alluvium, overlies weathered Tertiary clayey sands (Wyaaba beds, Bulimba Formation) - ferruginous duricrust may be present
GEOLOGY:	Mesozoic sediments of the Carpentaria Basin, overlain by Cainozoic units
ELEVATION:	10 - 80
RELIEF:	Low
MINOR LANDFORMS:	Areas of residual sand similar to that in the Holroyd unit
BOUNDARIES:	Limit of the fan of the Edward and Coleman Rivers
REFERENCES:	Smart & others (1980), Grimes & Doutch (1978), Galloway & others (1970)
TOPOGRAPHIC MAPS:	
GEOLOGICAL MAPS:	Holroyd, Rutland Plains 1:250 000; Carpentaria and Karumba Basins 1:1m
OTHER SOURCES:	Atlas of Australian Soils, CSIRO Land Research Series No 26
COMMENTS:	
COMPILER:	DLG, Nov 1985

NAME:	HOLROYD
NUMBER:	19
STYLE:	Erosional
BASIC FORM:	Plains
SOILS:	Yellow earths (Gn2.2), grey leached sands (Uc2.2)
SOILS ASSOCIATION:	Mr11, MT12, Ms20
DESCRIPTION:	Residual sand plain
REGOLITH:	Residual sand overlying ferruginous duricrust on weathered Tertiary clayey sands of the Wyaaba beds, Bulimba Formation; alluvium along river tracts, especially in north
GEOLOGY:	Mesozoic sediments of the Carpentaria Basin, overlain by Cainozoic units
ELEVATION:	10 - 200
RELIEF:	Low - very low
MINOR LANDFORMS:	Alluvial tracts along major rivers
BOUNDARIES:	Limit of duricrust
REFERENCES:	Smart & others (1980), Day & others (1983), Galloway & others (1970), Twidale (1964, 1966b), Perry & others (1964)
TOPOGRAPHIC MAPS:	
GEOLOGICAL MAPS:	Holroyd, Rutland Plains, Hann River, Walsh, Red River 1:250 000; Carpentaria and Karumba Basins 1:1m
OTHER SOURCES:	Atlas of Australian Soils, CSIRO Land Research Series Nos 11, 16, 26
COMMENTS:	
COMPILER:	DLG, Nov 1985

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NAME:	BULIMBA
NUMBER:	20
STYLE:	Erosional
BASIC FORM:	Plain
SOILS:	Yellow earths (Gn2.2), grey leached earths (Gn2.94)
SOILS ASSOCIATION:	Mr11, MT12
DESCRIPTION:	Plain, partly covered with residual sand
REGOLITH:	Residual sand, overlying weathered Tertiary clayey sands (Bulimba Formation); some remnants of ferruginous duricrust
GEOLOGY:	Mesozoic sediments of the Carpentaria Basin, overlain by Cainozoic units
ELEVATION:	80 - 200
RELIEF:	Moderate - low
MINOR LANDFORMS:	
BOUNDARIES:	Eastern boundary is the edge of the Carpentaria Basin. Western boundary with Holroyd unit is based on the boundary between older and younger ferruginous duricrust, and presence of Tertiary Wyaaba beds in the latter
REFERENCES:	Day & others (1983), Smart & others (1980), Galloway & others (1980)
TOPOGRAPHIC MAPS:	
GEOLOGICAL MAPS:	Hann River, Walsh 1:250 000; Carpentaria and Karumba Basins 1:1m
OTHER SOURCES:	CSIRO Land Research Series No 26
COMMENTS:	
COMPILER:	DLG, Nov 1985

NAME:	COLEMAN
NUMBER:	21
STYLE:	Erosional
BASIC FORM:	Plateau
SOILS:	Leached sands (Uc2.1, 2.2), mottled yellow leached earths (Gn2.74)
SOILS ASSOCIATION:	Ca41, Cd34, Mb22,23,24
DESCRIPTION:	Undulating plateau, with large flat areas veneered with residual sand; some strike ridges
REGOLITH:	Residual sand, overlying ferruginous duricrust at times
GEOLOGY:	Precambrian metamorphics intruded by Palaeozoic granite
ELEVATION:	100 - 400
RELIEF:	Moderate - low
MINOR LANDFORMS:	
BOUNDARIES:	Eastern boundary is a scarp down to the Jack unit, western boundary is the edge of the Carpentaria Basin. Northern boundary is partly the edge of the intermontane basin of the Archer unit, and mountains of the McIlwraith unit
REFERENCES:	Smart & others (1980), Whitaker & Gibson (1977a,b), Galloway & others (1970), Willmott & others (1973), Doutch & others (1973)
TOPOGRAPHIC MAPS:	Mitchell River 1:1m
GEOLOGICAL MAPS:	Ebagoola, Hann River 1:250 000; Carpentaria and Karumba Basins 1:1m
OTHER SOURCES:	Atlas of Australian Soils, CZCS imagery, CSIRO Land Research Series No 26
COMMENTS:	Alluvial gold worked early this century
COMPILER:	DLG, Nov 1985

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NAME:	JACK
NUMBER:	22
STYLE:	Erosional
BASIC FORM:	Plain
SOILS:	Red earths (Gn2.1), mottled yellow leached earths (Gn2.7), leached sands (Uc2.2)
SOILS ASSOCIATION:	Mw50, Mb19, Ca35,36,38
DESCRIPTION:	Low-lying residual sand plain
REGOLITH:	Residual sand, overlying ferruginous duricrust developed in weathered Tertiary clayey sandstone (Lilyvale beds); older Tertiary gravel (Fairview Gravel) which is in part silcreted, is preserved in a low tableland northwest of Laura
GEOLOGY:	Mesozoic sediments of the Laura Basin, overlain by Cainozoic sediments
ELEVATION:	0 - 200
RELIEF:	Low - moderate
MINOR LANDFORMS:	Alluvial tracts, low mesas and hills
BOUNDARIES:	Scarp up to higher ground of the Coleman and Deighton units in the west and south. Stewart and Normanby units to the north are depositional
REFERENCES:	Smart & others (1980), Day & others (1983), Galloway & others (1970), Whitaker & Gibson (1977b)
TOPOGRAPHIC MAPS:	Mitchell River, Cooktown 1:1m
GEOLOGICAL MAPS:	Ebagoola, Hann River, Cape Melville, Cooktown 1:250 000; Carpentaria and Karumba Basins 1:1m
OTHER SOURCES:	CZCS imagery, Atlas of Australian Soils, CSIRO Land Research Series No 26
COMMENTS:	
COMPILER:	DLG, Nov 1985

NAME: CHARLOTTE
NUMBER: 23
STYLE: Depositional
BASIC FORM: Coastal plain
SOILS: Grey self-mulching clays (Ug5.28); grey plastic clays (Uf6)
SOILS ASSOCIATION: Io1, II12, JB1
DESCRIPTION: Coastal plain, with mudflats, mangrove swamps, coastal alluvium and beach ridges.
REGOLITH: Sediment of coastal deposits, overlying weathered clayey sand of the Tertiary Lilyvale beds
GEOLOGY: Mesozoic sediments of the Laura Basin, overlain by Cainozoic sediments
ELEVATION: 0 - 10
RELIEF: Low
MINOR LANDFORMS:
BOUNDARIES: Limit of coastal sediments
REFERENCES: Smart & others (1980), Whitaker & Gibson (1977a,b), Galloway & others (1970)
TOPOGRAPHIC MAPS:
GEOLOGICAL MAPS: Coen, Ebagoola, Cape Melville 1:250 000; Carpentaria and Karumba Basins 1:1m
OTHER SOURCES: CSIRO Land Research Series No 26
COMMENTS:
COMPILER: DLG, Nov 1985

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NAME: NORMANBY
NUMBER: 24
STYLE: Depositional
BASIC FORM: Alluvialplain
SOILS: Grey leached earths (Gn2.94), yellow earths (Gn2.2), hard-setting duplex soils (Dy3.43)
SOILS ASSOCIATION: MT15,16, TM2, MR5, Va88
DESCRIPTION: Low-lying alluvial floodout plain
REGOLITH: Alluvium, minor residual sand; overlies weathered clayey sand of the Tertiary Lilyvale beds
GEOLOGY: Mesozoic sediments of the Laura Basin, overlain by Cainozoic units
ELEVATION: 10 - 70
RELIEF: Low
MINOR LANDFORMS: Residual sand plain
BOUNDARIES: Limit of alluvium of major rivers draining into Princess Charlotte Bay
REFERENCES: Smart & others (1980), de Keyser & Lucas (1968), Willmott & others (1973), Doutch & others (1973), Galloway & others (1970)
TOPOGRAPHIC MAPS:
GEOLOGICAL MAPS: Ebagoola, Cape Melville, Cooktown 1:250 000; Carpentaria and Karumba Basins 1:1m
OTHER SOURCES: Atlas of Australian Soils, CSIRO Land Research Series No 26
COMMENTS:
COMPILER: DLG, Nov 1985

NAME:	DEIGHTON
NUMBER:	25
STYLE:	Erosional
BASIC FORM:	Tableland
SOILS:	Leached sand (Uc2.2)
SOILS ASSOCIATION:	Ca35
DESCRIPTION:	Rugged dissected tableland
REGOLITH:	Weathered Tertiary clayey sand (Lilyvale beds) in valleys. Day & others (1983) show undifferentiated duricrust over the western part of the area
GEOLOGY:	Mesozoic sandstone and conglomerate of the Laura Basin; inliers of Palaeozoic rock in valley floors; Tertiary sediments in valleys
ELEVATION:	150 - 500
RELIEF:	High
MINOR LANDFORMS:	
BOUNDARIES:	Limit of dissected tablelands in sandstones of Laura Basin
REFERENCES:	Smart & others (1980), Day & others (1983), De Keyser & Lucas (1968), Galloway & others (1970)
TOPOGRAPHIC MAPS:	Cooktown, Cape Melville 1:1m
GEOLOGICAL MAPS:	Cooktown, Cape Melville 1:250 000; Carpentaria and Karumba Basins 1:1m
OTHER SOURCES:	Atlas of Australian Soils, CZCS imagery, CSIRO Land Research Series No 26
COMMENTS:	
COMPILER:	DLG, Nov 1985

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NAME:	COOKTOWN
NUMBER:	26
STYLE:	Erosional
BASIC FORM:	Range
SOILS:	Various
SOILS ASSOCIATION:	Many
DESCRIPTION:	Dissected coastal range, with broad alluvial valleys
REGOLITH:	Weathered Tertiary clayey sands in valleys; coastal muds and aeolian sands
GEOLOGY:	Palaeozoic sediments and low grade metamorphics of the Hodgkinson Basin, intruded by Permian granite. Outliers of sandstones of the Laura Basin. Tertiary sediments in valleys, minor Cainozoic basalt
ELEVATION:	0 - 500
RELIEF:	High
MINOR LANDFORMS:	Coastal mudflats, dunefields
BOUNDARIES:	Dissected tableland (Deighton unit) to the west
REFERENCES:	Galloway & others (1970)
TOPOGRAPHIC MAPS:	
GEOLOGICAL MAPS:	Hodgkinson and Laura Basins 1:500 000
OTHER SOURCES:	CZCS imagery, CSIRO Land Research Series No 26
COMMENTS:	
COMPILER:	DLG, Nov 1985

NAME:	FLATTERY
NUMBER:	27
STYLE:	Depositional
BASIC FORM:	Dunefield
SOILS:	Siliceous sands (Uc1.2)
SOILS ASSOCIATION:	B36
DESCRIPTION:	Dunefield of northwest-trending sand dunes
REGOLITH:	Aeolian sand
GEOLOGY:	Palaeozoic sediments of the Hodgkinson Basin overlain by Cainozoic sand
ELEVATION:	0 - 100
RELIEF:	Moderate
MINOR LANDFORMS:	Coastal plains
BOUNDARIES:	Limit of aeolian sand
REFERENCES:	Connah (1966), Galloway & others (1970)
TOPOGRAPHIC MAPS:	
GEOLOGICAL MAPS:	Cooktown, Cape Melville 1:250 000
OTHER SOURCES:	Atlas of Australian Soils, CZCS imagery, CSIRO Land Research Series No 26
COMMENTS:	Silica sand mined in this area
COMPILER:	DLG, Nov 1985

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NAME:	MALLAPUNYAH
NUMBER:	28
STYLE:	Erosional
BASIC FORM:	Hills and ridges, narrow valleys, dissected plateaux
SOILS:	Shallow sands and sandy loams, commonly gravelly and stony, hard setting duplex soils (Dr2.42), yellow earths (Gn2.21)
SOILS ASSOCIATION:	JJ34,35, BA14, Mt6, JK15,16,17, Qd9, Ms16,17
DESCRIPTION:	Generally hilly country with ridges, dunes, cuestas and low plateaux, gentle lower slopes, narrow valleys, low rough hills and ridges with some rocky steep slopes and some flat to gently sloping areas derived largely from dolomitic rock; dissected sandstone plateaux of hilly relief; bare rocks
REGOLITH:	Lateritic remnants, sand matrix between and around ironstone gravels; remnants of flat to gently undulating sandy laterite country, block laterite outcrop in places
GEOLOGY:	Proterozoic sandstone, siltstone, granite, acid and basic volcanics, Cambro-Ordovician sediments, Cretaceous sediments
ELEVATION:	Average 100 - 350
RELIEF:	100 m
MINOR LANDFORMS:	Undulating terrain developed on lateritised sediments, gently sloping valley plains with levees, depressions, lagoons and flat areas
BOUNDARIES:	Surrounded by sloping plains and coastal plains
REFERENCES:	Stewart (1954), Day & others (1983)
TOPOGRAPHIC MAPS:	Relief map of Australia 1:5m
GEOLOGICAL MAPS:	Various 1:250 000; Australia 1:2.5 and 1:5m; Cainozoic of the NT 1:2.5m
OTHER SOURCES:	CSIRO Land Research Series No 3, Australia Relief and Landforms 1:5m; Sheet 8, Atlas of Australian Soils
COMMENTS:	
COMPILER:	GWD'A, DLG, Nov 1985

NAME:	TOOWOOMBA
NUMBER:	29
STYLE:	Basalt
BASIC FORM:	Plateau
SOILS:	Dark self-mulching clays (Ug5.1), duplex soils (Dr2.13), red friable earths (Gn3.11)
SOILS ASSOCIATION:	Kb units, Kd units, Oa6, Mp4
DESCRIPTION:	Dissected plateau, with steep scarp at eastern boundary
REGOLITH:	Ferruginous duricrust and silcrete on un-named Tertiary sediments beneath the volcanics. Also some duricrust developed on the volcanics
GEOLOGY:	Tertiary volcanics
ELEVATION:	350? - 1140
RELIEF:	Moderate - very high
MINOR LANDFORMS:	
BOUNDARIES:	Area of volcanics
REFERENCES:	Day & others (1983), Cranfield & others (1976)
TOPOGRAPHIC MAPS:	
GEOLOGICAL MAPS:	Ipswich, Gympie 1:250 000
OTHER SOURCES:	Atlas of Australian Soils, Landsat and CZCS imagery
COMMENTS:	
COMPILER:	DLG, GT, Nov 1985

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NAME:	WESTMORELAND
NUMBER:	30
STYLE:	Erosional/depositional
BASIC FORM:	Sloping plains
SOILS:	Duplex soils (Dy3.41), sands (Uc5.22), mottled yellow earths (Gn2.62), red earths (Gn2.12), grey earths, saline clays
SOILS ASSOCIATION:	Tb135, AC19, MP1, My92, I01
DESCRIPTION:	Gently sloping plains traversed by numerous creeks; very gently undulating plains with broad shallow drainage lines
REGOLITH:	Alluvium in some areas, and shallow leached residual sand in others, overlying ferruginous duricrust on weathered Tertiary clayey sands (Floraville Formation) and older rocks
GEOLOGY:	Proterozoic sediments of the McArthur Basin, and Mesozoic sediments of the Carpentaria Basin, overlain by Cainozoic units
ELEVATION:	10 - 100
RELIEF:	Low
MINOR LANDFORMS:	Pediments cut into Mesozoic rocks along the southwest margin, coastal plains and dunes
BOUNDARIES:	Higher erosional units to the southwest and northwest, coastal deposits of the Karumba unit to the northeast, depositional Amraynald unit to the southeast
REFERENCES:	Stewart (1954), Day & others (1983)
TOPOGRAPHIC MAPS:	Relief map of Australia 1:5m
GEOLOGICAL MAPS:	Carpentaria and Karumba Basins 1:1m; Australia 1:2.5 and 1:5m; Cainozoic of the NT 1:2.5m; various 1:250 000
OTHER SOURCES:	CSIRO Land Research Series No 3, Australian Relief and Landforms 1:5m. Atlas of Australian Soils
COMMENTS:	
COMPILER:	DLG, GWD'A, Dec 1985

NAME:	KARUMBA
NUMBER:	31
STYLE:	Depositional
BASIC FORM:	Coastal plain
SOILS:	Plastic grey clays (Uf6), grey self-mulching clays (Ug5)
SOILS ASSOCIATION:	Io1, II12
DESCRIPTION:	Coastal plain, with extensive mudflats; mangrove swamps and beach ridges subordinate
REGOLITH:	Intertidal and supratidal mud, sand in beach ridges, coastal alluvium. Overlies a variety of weathered Tertiary and Mesozoic rocks
GEOLOGY:	Mesozoic sediments of the Carpentaria Basin, overlain by Cainozoic units
ELEVATION:	0 - 10
RELIEF:	low - very low
MINOR LANDFORMS:	
BOUNDARIES:	Edge of coastal sediments
REFERENCES:	Smart & others (1980), Smart (1976, 1977b), Grimes (1974), Simpson & Doutch (1977), Doutch & others (1970, 72, 73), Whitehouse (1940b, 63),Valentin (1961), Twidale (1956b, 64, 66b), Galloway & others (1970), Perry & others (1
TOPOGRAPHIC MAPS:	Mitchell River, Normanton 1:1m
GEOLOGICAL MAPS:	Carpentaria and Karumba Basins 1:1m
OTHER SOURCES:	Atlas of Australian Soils, CZCS imagery, CSIRO Land Research Series Nos 11, 16, 26
COMMENTS:	Minor occurrences of heavy mineral sands
COMPILER:	DLG, Nov 1985

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NAME:	MORNINGTON
NUMBER:	32
STYLE:	Erosional
BASIC FORM:	Low islands
SOILS:	Mottled yellow leached earths (Gn2.74)
SOILS ASSOCIATION:	Mb17
DESCRIPTION:	Low island plateaux
REGOLITH:	Residual sand and Tertiary ferruginous duricrust overlying weathered Tertiary clayey sand of the Floraville Formation. Minor coastal sediments
GEOLOGY:	Mesozoic sediments of the Carpentaria Basin, overlain by Cainozoic units
ELEVATION:	0 - 30
RELIEF:	Low (moderate at margins)
MINOR LANDFORMS:	Coastal plains and mudflats
BOUNDARIES:	All major islands in the Wellesley and South Wellesley Groups
REFERENCES:	Grimes (1974), Smart & others (1980), Day & others (1983)
TOPOGRAPHIC MAPS:	
GEOLOGICAL MAPS:	Mornington, Cape van Dieman 1:250 000; Carpentaria and Karumba Basins 1:1m
OTHER SOURCES:	Atlas of Australian Soils
COMMENTS:	Minor heavy minerals in coastal sand
COMPILER:	DLG, Nov 1985

NAME:	MITCHELL
NUMBER:	33
STYLE:	Depositional
BASIC FORM:	Alluvialplain
SOILS:	Grey earths (Gn2.9), duplex soils (Dy2.3), red earths (Gn2.1)
SOILS ASSOCIATION:	Si14, MT10, TM1, Mw40
DESCRIPTION:	Low lying, low gradient, alluvial outwash fan of Mitchell River
REGOLITH:	Sandy alluvium overlies weathered Tertiary clayey sands of the Wyaaba beds and Bulimba Formation
GEOLOGY:	Mesozoic sediments of the Carpentaria Basin, overlain by Cainozoic units
ELEVATION:	10 - 100
RELIEF:	Low
MINOR LANDFORMS:	
BOUNDARIES:	Limit of alluvium of Mitchell River outwash fan
REFERENCES:	Smart & others (1980), Doutch & others (1972), Grimes & Doutch (1978), Galloway & others (1970)
TOPOGRAPHIC MAPS:	
GEOLOGICAL MAPS:	Rutland Plains, Galbraith 1:250 000; Carpentaria and Karumba Basins 1:1m
OTHER SOURCES:	CSIRO Land Research Series No 26
COMMENTS:	
COMPILER:	DLG, Nov 1985

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NAME:	MULGRAVE
NUMBER:	34
STYLE:	Erosional
BASIC FORM:	Hills
SOILS:	Duplex soils (Dr2.11, Dr2.21), sands (Uc4.1), loams (Um4.1)
SOILS ASSOCIATION:	Pa2, JJ47, Pb35, LK28
DESCRIPTION:	Undulating to hilly lands with rugged quartz ridges
REGOLITH:	Alluvium, mainly along Palmer River
GEOLOGY:	Precambrian metamorphics, intruded by Palaeozoic granites
ELEVATION:	200 - 500
RELIEF:	Moderate
MINOR LANDFORMS:	
BOUNDARIES:	Margin of area of Precambrian metamorphics
REFERENCES:	Galloway & others (1970), Whitaker & Grimes (1977)
TOPOGRAPHIC MAPS:	
GEOLOGICAL MAPS:	Hodgkinson and Laura Basins 1:500 000
OTHER SOURCES:	CSIRO Land Research Series No 26
COMMENTS:	
COMPILER:	DLG, Nov 1985

NAME:	PALMER
NUMBER:	35
STYLE:	Erosional
BASIC FORM:	Hills
SOILS:	Leached loamy soils (Um2.1)
SOILS ASSOCIATION:	Fu 23,27,35
DESCRIPTION:	High to low hilly lands
REGOLITH:	Minor only (alluvium, colluvium, soils etc)
GEOLOGY:	Palaeozoic sediments and low grade metamorphics of the Hodgkinson Basin, intruded by Permian granite
ELEVATION:	200 - 900
RELIEF:	Low - very high
MINOR LANDFORMS:	Basalt plains in the north, alluvial valley in southeast at head of Walsh, Barren and Mitchell Rivers
BOUNDARIES:	North, west and south boundaries are edge of Hodgkinson Basin
REFERENCES:	Galloway & others (1970)
TOPOGRAPHIC MAPS:	
GEOLOGICAL MAPS:	Hodgkinson & Laura Basins 1:500 000
OTHER SOURCES:	CSIRO Land Research Series No 26
COMMENTS:	Alluvial gold has been mined along the Palmer River
COMPILER:	DLG, Nov 1985

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NAME:	DAINTREE
NUMBER:	36
STYLE:	Erosional
BASIC FORM:	Range
SOILS:	Red friable earths (Gn3.12), loams (Um4.4), yellow friable earths (Gn3.7)
SOILS ASSOCIATION:	Mj8,10, LN1,2, Mf17
DESCRIPTION:	Steep mountain range, with high hilly plateaux
REGOLITH:	Minor only (alluvium, colluvium, soils etc)
GEOLOGY:	Palaeozoic metamorphics and sediments of the Hodgkinson Basin, intruded by Permian granites. Minor Cainozoic basalt
ELEVATION:	0 - 1350
RELIEF:	Very high
MINOR LANDFORMS:	
BOUNDARIES:	From CZCS imagery and soils data
REFERENCES:	
TOPOGRAPHIC MAPS:	Townsville 1:1m
GEOLOGICAL MAPS:	Hodgkinson & Laura Basins 1:500 000
OTHER SOURCES:	Atlas of Australian Soils, CZCS imagery
COMMENTS:	
COMPILER:	DLG, Nov 1985

NAME:	DOOMADGEE
NUMBER:	37
STYLE:	Erosional
BASIC FORM:	Plain
SOILS:	Mottled yellow earths (Gn2.62), hard setting duplex soils with mottled yellow clayey subsoils (Dy3.41), red earths (Gn2.12)
SOILS ASSOCIATION:	MP1, Tb135, My92
DESCRIPTION:	Flat to gently undulating sandy lateritic plain
REGOLITH:	Ferruginous duricrust overlies weathered Tertiary clayey sandstone; residual sand; minor alluvium
GEOLOGY:	Mesozoic sediments of the Carpentaria Basin at depth, overlain by Tertiary Floraville Formation and younger units
ELEVATION:	10 - 100 m
RELIEF:	Low
MINOR LANDFORMS:	Pediments cut into Mesozoic rocks along southwest boundary
BOUNDARIES:	Scarp up to higher ground to the southwest; depositional units to the north and east
REFERENCES:	Grimes (1974), Smart & others (1980), Stewart (1954), Day & others (1983)
TOPOGRAPHIC MAPS:	Normanton 1:1m
GEOLOGICAL MAPS:	Carpentaria Basin 1:1m
OTHER SOURCES:	Stewart (1954), Soils Atlas of Australia
COMMENTS:	
COMPILER:	DLG, Jan 1986

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NAME:	GILBERT
NUMBER:	38
STYLE:	Depositional
BASIC FORM:	Alluvial fan
SOILS:	Duplex soils (Dy3.33, Dy2.33), mottled yellow earths (Gn2.61)
SOILS ASSOCIATION:	Vd8, Si12,13, MO1
DESCRIPTION:	Floodout fan of the Gilbert River
REGOLITH:	Alluvium overlies weathered Tertiary clayey sands of the Wyaaba beds and Bulimba Formation
GEOLOGY:	Mesozoic sediments of the Carpentaria Basin, overlain by Cainozoic sediments
ELEVATION:	10 - 140
RELIEF:	Low
MINOR LANDFORMS:	
BOUNDARIES:	Limit of alluvium of the Gilbert River fan. A major soils boundary which also shows on CZCS imagery is used as the southern boundary
REFERENCES:	Smart & others (1980), Grimes & Doutch (1978), Doutch & others (1972), Galloway & others (1970), Twidale (1964, 1966b), Perry & others (1964), Simpson & Doutch (1977)
TOPOGRAPHIC MAPS:	
GEOLOGICAL MAPS:	Carpentaria and Karumba Basins 1:1m; Normanton, Galbraith 1:250 000
OTHER SOURCES:	Atlas of Australian Soils, CZCS imagery, CSIRO Land Research Series Nos 11, 16, 26
COMMENTS:	
COMPILER:	DLG, Nov 1985

NAME:	STAATEN
NUMBER:	39
STYLE:	Depositional
BASIC FORM:	Plain
SOILS:	Grey leached earths (Gn2.9), grey earths (Gn2.8)
SOILS ASSOCIATION:	MT10, TM1
DESCRIPTION:	Abandoned outwash fan of the ancestral Etheridge, Red, and Staaten Rivers
REGOLITH:	Old alluvium overlies weathered Tertiary clayey sands of the Wyaaba beds and Bulimba Formation
GEOLOGY:	Mesozoic sediments of the Carpentaria Basin, overlian by Cainozoic units
ELEVATION:	40 - 150
RELIEF:	Low
MINOR LANDFORMS:	Active alluvial tracts along major drainages, such as Staaten River and Pelican Creek
BOUNDARIES:	Limit of area of old alluvium
REFERENCES:	Doutch & others (1972), Smart & others (1980), Grimes & Doutch (1978), Galloway & others (1970), Perry & others (1964), Twidale (1964, 1966b)
TOPOGRAPHIC MAPS:	
GEOLOGICAL MAPS:	Galbraith, Walsh, Normanton, Red River 1:250 000; Carpentaria and Karumba Basins 1:1m
OTHER SOURCES:	Atlas of Australian Soils, CSIRO Land Research Series Nos 11, 16, 26
COMMENTS:	
COMPILER:	DLG, Nov 1985

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NAME:	RED
NUMBER:	40
STYLE:	Erosional
BASIC FORM:	Plateau
SOILS:	Minimal sandy soils (Uc1,2,5), red earths (Gn2.11)
SOILS ASSOCIATION:	Bz17, Mz30
DESCRIPTION:	Dissected plateau
REGOLITH:	Weathered Tertiary clayey sands (Bulimba Formation) with remnants of ferruginous duricrust capping
GEOLOGY:	Mesozoic sediments of the Carpentaria Basin, overlain by Cainozoic units
ELEVATION:	150 - 350
RELIEF:	Moderate
MINOR LANDFORMS:	
BOUNDARIES:	Limit of main outcrops of the Bulimba Formation in the area
REFERENCES:	Smart & others (1980), Twidale (1964, 1966b), Day & others (1983), Galloway & others (1970), Perry & others (1964)
TOPOGRAPHIC MAPS:	
GEOLOGICAL MAPS:	Carpentaria and Karumba Basins 1:1m; Red River 1:250 000
OTHER SOURCES:	Atlas of Australian Soils, CSIRO Land Research Series Nos 11, 16, 26
COMMENTS:	
COMPILER:	DLG, Nov 1985

NAME:	GEORGETOWN
NUMBER:	41
STYLE:	Erosional
BASIC FORM:	Uplands
SOILS:	Sands (Uc4, Uc2.1), loams (Um2.1, Um4.2), duplex soils (Dy2.22)
SOILS ASSOCIATION:	JK19,20,21,30,31, JJ42, Fu18,20, LL8, Se4, Cd31,32
DESCRIPTION:	Gently undulating to hilly lands
REGOLITH:	Some areas of ferruginous duricrust, especially in the southeast
GEOLOGY:	Precambrian metamorphics and granites, Palaeozoic volcanics and granites of the Georgetown Inlier
ELEVATION:	200 - 860
RELIEF:	Low - high
MINOR LANDFORMS:	Steep ranges
BOUNDARIES:	Margins of the Georgetown Inlier
REFERENCES:	Day & others (1983), Galloway & others (1970), Twidale (1964, 1966b),Perry & others (1964), Fletcher & Couper (1975), Burger (1982)
TOPOGRAPHIC MAPS:	
GEOLOGICAL MAPS:	Queensland 1:2m
OTHER SOURCES:	CZCS imagery, Atlas of Australian Soils, CSIRO Land Research Series Nos 11, 16, 26
COMMENTS:	Alluvial tin along east margin at Herberton - Ravenshoe, lateritic nickel in southeast (Greenvale), north of the Nulla unit
COMPILER:	DLG, Nov 1985

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NAME:	MOUNT GARNET
NUMBER:	42
STYLE:	Depositional
BASIC FORM:	Plain
SOILS:	Red earths (Gn2.14), duplex soils (Dy3.42)
SOILS ASSOCIATION:	Mw46, Ub105
DESCRIPTION:	Broad sandy plain
REGOLITH:	Residual sand overlies ferruginous duricrust; alluvium along watercourses
GEOLOGY:	Palaeozoic volcanics, intruded by granite
ELEVATION:	500 - 850
RELIEF:	Low - moderate
MINOR LANDFORMS:	Hills
BOUNDARIES:	Area of residual sand
REFERENCES:	Day & others (1983)
TOPOGRAPHIC MAPS:	
GEOLOGICAL MAPS:	Atherton 1:250 000
OTHER SOURCES:	Atlas of Australian Soils
COMMENTS:	Alluvial tin mined in Mt Garnet area
COMPILER:	DLG, Nov 1985

NAME:	ATHERTON
NUMBER:	43
STYLE:	Volcanics
BASIC FORM:	Tableland
SOILS:	Red friable earths (Gn3.11)
SOILS ASSOCIATION:	Mp19,20
DESCRIPTION:	Undulating to hilly basalt plateau, with some low conical peaks
REGOLITH:	Minor only (alluvium, colluvium, soils etc)
GEOLOGY:	Cainozoic Basalt
ELEVATION:	500 - 1400
RELIEF:	Moderate
MINOR LANDFORMS:	
BOUNDARIES:	Edge of basalt
REFERENCES:	
TOPOGRAPHIC MAPS:	
GEOLOGICAL MAPS:	Atherton, Innisfail 1:250 000
OTHER SOURCES:	CZCS imagery, Atlas of Australian Soils
COMMENTS:	
COMPILER:	DLG, Nov 1985

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NAME:	CAIRNS
NUMBER:	44
STYLE:	Depositional/erosional
BASIC FORM:	Valley and range
SOILS:	Friable loamy soils (Um6.34), red earths (Gn2.14)
SOILS ASSOCIATION:	Gh1, Mw47
DESCRIPTION:	Broad alluvial valley, inland from steep narrow coastal range in the north. Coastal alluvial plains in the south. Prominent alluvial terrace systems
REGOLITH:	Thick alluvium, coastal sediments on the plains. Regolith minor only on the ranges
GEOLOGY:	Palaeozoic metamorphics intruded by Permian granite, overlain by Cainozoic units over much of area
ELEVATION:	0 - 200 on plains; ranges reach 1000
RELIEF:	Low - very high
MINOR LANDFORMS:	
BOUNDARIES:	Western edge of alluvial plains
REFERENCES:	
TOPOGRAPHIC MAPS:	
GEOLOGICAL MAPS:	Hodgkinson and Laura Basins 1:500 000
OTHER SOURCES:	CZCS imagery, Atlas of Australian Soils
COMMENTS:	
COMPILER:	DLG, Nov 1985

NAME:	AMRAYNALD
NUMBER:	45
STYLE:	Depositional
BASIC FORM:	Floodplain
SOILS:	Grey and brown self-mulching clays (Ug5), red earths (Gn2.12)
SOILS ASSOCIATION:	CC66, 67, 69; MM25, 26; My93
DESCRIPTION:	Floodpain of Gregory, Nicholson, Leichardt and Alexandra Rivers
REGOLITH:	Recent alluvium overlies silt, clay and minor sand of the Cainozoic Amraynald beds, which overlie weathered clayey sand of the Tertiary Floraville Formation
GEOLOGY:	Mesozoic sediments of the Carpentaria Basin, overlain by Cainozoic units
ELEVATION:	10 - 150
RELIEF:	Very low
MINOR LANDFORMS:	May include an erosional area in the southeast (Perry & others, 1964)
BOUNDARIES:	Surrounded by erosional units
REFERENCES:	Smart & others (1980), Perry & others (1964), Grimes & Doutch (1978), Twidale (1964), Simpson & Doutch (1977), Twidale (1966b)
TOPOGRAPHIC MAPS:	
GEOLOGICAL MAPS:	Carpentaria and Karumba Basins 1:1m
OTHER SOURCES:	Atlas of Australian Soils, CZCS imagery, CSIRO Land Research Series Nos 11, 16
COMMENTS:	
COMPILER:	DLG, Nov 1985

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NAME:	ERINGA
NUMBER:	46
STYLE:	Erosional
BASIC FORM:	Dissected tablelands, stony plains and erosional terraces
SOILS:	Crusty loamy soils, brown cracking clays, red earths on terraces and plains
SOILS ASSOCIATION:	Many Nb units, My15,116, B50
DESCRIPTION:	Dissected silcrete tableland and smooth mesa remnants with steep escarpments, undulating stony footslopes, erosional terraces, and sandy plains
REGOLITH:	Silcrete capping to the tableland, some block laterite on breakaways; calerete-capped terraces, mound spring deposits; gibber covered bahadas; aeolian and residual quartz sand; minor alluvial, colluvial and lacustrine deposits
GEOLOGY:	Cretaceous sediments partly covered by Tertiary (Eromanga Basin)
ELEVATION:	Average 100-300 m
RELIEF:	100 m
MINOR LANDFORMS:	Mound springs, clay pans, swamps, longitudinal dune fields, flood plains and alluvial terraces
BOUNDARIES:	Surrounded by dune fields; boundaries from CZCS imagery and soils maps
REFERENCES:	
TOPOGRAPHIC MAPS:	Relief Map of Australia 1:5 m; Oodnadatta 1:1m
GEOLOGICAL MAPS:	Australia 1:2.5 m & 1:5 m; Cainozoic of the NT 1:2.5 m; 1:250 000 Geological series
OTHER SOURCES:	Relief and Landforms of Australia 1:5 m; Cainozoic Cover and Weathering 1:10 m; Sheets 10NE, 10SE Atlas of Australian Soils; CZCS imagery
COMMENTS:	
COMPILER:	GT, GWD'A, MC, Jan 1985

NAME:	DONORS
NUMBER:	47
STYLE:	Erosional
BASIC FORM:	Plateau
SOILS:	Yellow earths (Gn2.2), loams (Um5.51), duplex soils (Dy2.13), grey self mulching clays (Ug5.22)
SOILS ASSOCIATION:	Ms19, Sc1,2, Fa22,24, CB9,10
DESCRIPTION:	Low dissected duricrust plateau
REGOLITH:	Remnants of old landsurfaces: the basal part a deep weathered profile is preserved in Mesozoic sandstones; duricrusted (silicified in part) valley remnants; ferruginous duricrust
GEOLOGY:	Mesozoic sediments of the Carpentaria Basin
ELEVATION:	10 - 140
RELIEF:	Low - moderate
MINOR LANDFORMS:	Small area of depositional plain
BOUNDARIES:	Surrounded by depositional units
REFERENCES:	Day & others (1983), Perry & others (1964), Twidale (1964, 1966b), Doutch & others (1970), Smart & others (1980), Ingram (1972)
TOPOGRAPHIC MAPS:	
GEOLOGICAL MAPS:	Carpentaria and Karumba Basins 1:1m; Donors Hill, Burketown, Normanton 1:250 000
OTHER SOURCES:	Atlas of Australian Soils, CSIRO Land Research Series Nos 11, 16
COMMENTS:	Duricrusted remnants exhibit and old drainage pattern in inverted relief
COMPILER:	DLG, Nov 1985

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NAME:	WONDOOLA
NUMBER:	48
STYLE:	Depositional
BASIC FORM:	Plain
SOILS:	Self-mulching clays (Ug5.2, 5.3)
SOILS ASSOCIATION:	CC66, MM units
DESCRIPTION:	Floodplain of Flinders and Cloncurry Rivers
REGOLITH:	Recent alluvium, overlying older alluvium of the Cainozoic Wondoola beds (up to 60m thick)
GEOLOGY:	Sediments of the Carpentaria and Eromanga Basins, overlain by Cainozoic units
ELEVATION:	10 - 180
RELIEF:	Low - very low
MINOR LANDFORMS:	
BOUNDARIES:	Partly surrounded by erosional units. See Claraville unit for eastern boundary, and Clonagh unit for southwestern boundary
REFERENCES:	Smart & others (1980), Simpson & Doutch (1977), Twidale (1964, 1966a,b), Perry & others (1964)
TOPOGRAPHIC MAPS:	
GEOLOGICAL MAPS:	Carpentaria and Karumba Basins, Northern Eromanga Basin 1:1m
OTHER SOURCES:	CZCS imagery, Atlas of Australian Soils, CSIRO Land Research Series Nos 11, 16
COMMENTS:	
COMPILER:	DLG, Nov 1985

NAME:	BLACKBULL
NUMBER:	49
STYLE:	Depositional
BASIC FORM:	Plain
SOILS:	Grey earths (Gn2.84)
SOILS ASSOCIATION:	QM1
DESCRIPTION:	Old floodout plain from higher ground to the east. Now inactive with little erosion or deposition
REGOLITH:	Old fluvial deposits (Claraville beds), overlie weathered Tertiary clayey sands (Wyaaba beds and Bulimba Formation)
GEOLOGY:	Mesozoic sediments of the Carpentaria Basin, overlain by Cainozoic units
ELEVATION:	10 - 150
RELIEF:	Low - very low
MINOR LANDFORMS:	
BOUNDARIES:	This unit has fewer drainage channels than the floodout units to the south and north. Best seen on CZCS imagery
REFERENCES:	Simpson & Doutch (1977)
TOPOGRAPHIC MAPS:	
GEOLOGICAL MAPS:	Carpentaria and Karumba Basins 1:1m
OTHER SOURCES:	CZCS imagery, Atlas of Australian Soils, CSIRO Land Research Series Nos 11, 16
COMMENTS:	
COMPILER:	DLG, Nov 1985

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NAME:	McBRIDE
NUMBER:	50
STYLE:	Basalt
BASIC FORM:	Plain
SOILS:	Red friable earths (Gn3.12), brown friable earths (Gn3.22), some areas of bare rock
SOILS ASSOCIATION:	Mo30,31, Me9
DESCRIPTION:	Gently undulating basalt plains, with low stony flow scarps
REGOLITH:	Minor only (colluvium, alluvium, soil etc)
GEOLOGY:	Cainozoic Basalt with intercalated sediments
ELEVATION:	400 - 1000
RELIEF:	Moderate - low
MINOR LANDFORMS:	Volcanic cones
BOUNDARIES:	Area of basalt
REFERENCES:	Twidale (1956c, 1964, 1966b), Perry & others (1964), White (1962), Stephenson & others (1980), Stephenson & Griffin (1976)
TOPOGRAPHIC MAPS:	CSIRO Land Research Series Nos 11, 16
GEOLOGICAL MAPS:	Einasleigh 1:250 000
OTHER SOURCES:	
COMMENTS:	Sapphire, peridot and zircon present in the basalt and associated sediments
COMPILER:	DLG, Nov 1985

NAME:	LUCY
NUMBER:	51
STYLE:	Erosional
BASIC FORM:	Tableland
SOILS:	Yellow earths (Gn2.24), red earths (Gn2.14), duplex soils (Dy3.43)
SOILS ASSOCIATION:	Mr14, Va84, Mw44,46
DESCRIPTION:	Partly dissected laterite tableland
REGOLITH:	Ferruginous duricrust overlies Tertiary sediments. Local silicification
GEOLOGY:	Palaeozoic granites and sediments, overlain by Cainozoic units
ELEVATION:	700 - 800
RELIEF:	Low - moderate
MINOR LANDFORMS:	
BOUNDARIES:	Edge of the laterite area
REFERENCES:	Day & others (1983), White (1962), de Keyser & Lucas (1968)
TOPOGRAPHIC MAPS:	
GEOLOGICAL MAPS:	Einasleigh 1:250 000; Burdekin - Townsville Region 1:1m
OTHER SOURCES:	
COMMENTS:	
COMPILER:	DLG, Nov 1985

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NAME:	BURDEKIN
NUMBER:	52
STYLE:	Erosional
BASIC FORM:	Uplands
SOILS:	Many, including duplex soils, red earths, sands
SOILS ASSOCIATION:	Many including Mw, Va, JK, Ca, Qa
DESCRIPTION:	Undulating to hilly uplands
REGOLITH:	Minor ferruginous duricrust developed on areas of Tertiary sediment; very minor silcrete
GEOLOGY:	Palaeozoic sediments, volcanics, and granites
ELEVATION:	200 - 1100
RELIEF:	moderate
MINOR LANDFORMS:	
BOUNDARIES:	Ranges to the east, basalt areas to the north and west, flatter areas to the west. Differentiated form Georgetown unit to west largely by different soils
REFERENCES:	Day & others (1983), Stewart & Perry (1953)
TOPOGRAPHIC MAPS:	
GEOLOGICAL MAPS:	Burdekin - Townsville region 1:1m
OTHER SOURCES:	Atlas of Australian Soils, CSIRO Land Research Series Nos 2, 39
COMMENTS:	
COMPILER:	DLG, Nov 1985

NAME:	CARDWELL
NUMBER:	53
STYLE:	Erosional
BASIC FORM:	Range
SOILS:	Red friable earths (Gn3.14), red earths (Gn2.14), yellow earths (Gn2.24), yellow friable earths (Gn3,74)
SOILS ASSOCIATION:	Mj8,10,11; Mw41,42; Mr16; Mf17,18,19
DESCRIPTION:	Mountain range
REGOLITH:	Minor only (alluvium, colluvium, soils etc)
GEOLOGY:	Palaeozoic granites and volcanics
ELEVATION:	200 - 1200
RELIEF:	Very high
MINOR LANDFORMS:	Coastal flats
BOUNDARIES:	Scarp down to lowlands to the east, merges with hilly land to the west. Western boundary from soils maps and imagery
REFERENCES:	Stewart & Perry (1953)
TOPOGRAPHIC MAPS:	Townsville 1:1m
GEOLOGICAL MAPS:	Hodgkinson & Laura Basins 1:500 000
OTHER SOURCES:	CZCS imagery, Atlas of Australian Soils, CSIRO Land Research Series No 2
COMMENTS:	
COMPILER:	DLG, Nov 1985

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NAME:	TOWNSVILLE
NUMBER:	54
STYLE:	Depositional
BASIC FORM:	Plain
SOILS:	Duplex soils (Dy2, Dy3, Dd1), plastic clays (Uf6.22)
SOILS ASSOCIATION:	Ui3, Va units, Si10, Jb units, HG units
DESCRIPTION:	Low lying coastal plain; includes Burdekin Delta
REGOLITH:	Alluvium, coastal sediments. Weathering profile preserved in alluvium of Burdekin Delta
GEOLOGY:	Palaeozoic granites, sediments and volcanics
ELEVATION:	0 - 200 in most parts - hills up to 600
RELIEF:	Low (except for sparse hills)
MINOR LANDFORMS:	Steep hills and mountains
BOUNDARIES:	Scarp up to mountains to the west
REFERENCES:	Stewart & Perry (1953), Hopley (1970), Hopley & Murtha (1975)
TOPOGRAPHIC MAPS:	Townsville 1:1m
GEOLOGICAL MAPS:	Burdekin - Townsville Region 1:1m
OTHER SOURCES:	CZCS imagery, Atlas of Australian Soils, CSIRO Land Research Series No 2
COMMENTS:	
COMPILER:	DLG, Nov 1985

NAME: ALROY DOWNS
NUMBER: 55
STYLE: Erosional
BASIC FORM: Undulating plains, swamps
SOILS: Deep grey self mulching clays, red earths
SOILS ASSOCIATION: II9,10, CC60,61,62, AB30
DESCRIPTION: Flat to very gently undulating low-lying plains with widely spaced narrow drainage ways, low gravelly rises, some shallow depressions; undulating rises of red earths; some shallow gilgais on clays. Drainage partly internal into dolines
REGOLITH: Deep weathered residual clays from weathering of underlying carbonates
GEOLOGY: Cambrian sediments of the Georgina Basin
ELEVATION: Average 300 m
RELIEF: Less than 20 m
MINOR LANDFORMS: Low-lying swampy plains on low irregular limestone rises and shallow channels; some drainage-ways with large water-holes; scattered flat limestone.
BOUNDARIES: Hilly country to the west, sloping plains to the north and NE, hills and ridges to the E
REFERENCES: Stewart (1954), Grimes (1974), Smart & others (1980)
TOPOGRAPHIC MAPS: Relief Map of Australia 1:5 m
GEOLOGICAL MAPS: Australia 1:2.5 m & 1:5 m ;Cainozoic of the NT 1:2.5 m ;1:250 000 geological series
OTHER SOURCES: Sheets 7, 8, 10NE Atlas of Australian Soils, CZCS imagery, CSIRO Land Research Series No 3
COMMENTS:
COMPILER: GWD'A, DLG, Jan 1986

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NAME: UNDILLA
NUMBER: 56
STYLE: Erosional
BASIC FORM: Tableland
SOILS: Duplex soils (Dr2.13), loamy soils (Um1.3, Um6.22)
SOILS ASSOCIATION: Oa13, Fy5, Ge2
DESCRIPTION: Moderately to strongly undulating lands
REGOLITH: Minor only (alluvium, colluvium, soils etc)
GEOLOGY: Cambrian carbonates of the Georgina Basin, with outliers of Mesozoic sandstone of the Carpentaria Basin
ELEVATION: 180 - 350
RELIEF: Moderate
MINOR LANDFORMS:
BOUNDARIES: Barkly unit with black soil plains to the southwest, edge of the Georgina Basin to the north and east, and lateritised Mesozoic rocks (Split Rock unit) to the south
REFERENCES: Stewart (1954)
TOPOGRAPHIC MAPS:
GEOLOGICAL MAPS: Camooweal 1:250 000
OTHER SOURCES: CZCS imagery, Atlas of Australian Soils, CSIRO Land Research Series No 3
COMMENTS:
COMPILER: DLG, Nov 1985

NAME: ISA
NUMBER: 57
STYLE: Erosional
BASIC FORM: Uplands
SOILS: Many
SOILS ASSOCIATION: Fx1, Bz17,18,19, Fz25, Qa20
DESCRIPTION: Dissected hilly country, with numerous strike ridges and fault scarps. General summit concordance
REGOLITH: Ferruginous duricrust and silcrete in an area northwest of Mt Isa
GEOLOGY: Precambrian metamorphics and granites
ELEVATION: 100 - 600
RELIEF: Moderate - high
MINOR LANDFORMS: Narrow dissected plateau trends north from Mt Isa
BOUNDARIES: Margin of the Mt Isa Block
REFERENCES: Smart & others (1980), Stewart (1954), Twidale (1964, 1966b), Day & others (1983), Perry & others (1964)
TOPOGRAPHIC MAPS:
GEOLOGICAL MAPS: Queensland 1:1m
OTHER SOURCES: CZCS imagery, CSIRO Land Research Series Nos 3, 11, 16
COMMENTS:
COMPILER: DLG, Nov 1985

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NAME: KAMILEROI
NUMBER: 58
STYLE: Erosional
BASIC FORM: Plain
SOILS: Red earths (Gn2.12), grey self-mulching clays (Ug5.2)
SOILS ASSOCIATION: My90,91, CC67
DESCRIPTION: Pediments cut into Mesozoic rocks, with narrow floodplains and broader floodout sheets
REGOLITH: Alluvium, residual sand
GEOLOGY: Mesozoic sediments of the Carpentaria Basin
ELEVATION: 60 - 120
RELIEF: low
MINOR LANDFORMS:
BOUNDARIES: Largely erosional area along southwest margin of the Carpentaria Basin, with outcrop of Mesozoic sediments
REFERENCES: Smart & Others (1980), Twidale (1964, 1966b), Perry & others (1964)
TOPOGRAPHIC MAPS:
GEOLOGICAL MAPS: Carpentaria and Karumba Basins 1:1m
OTHER SOURCES: CSIRO Land Research Series Nos 11, 16
COMMENTS:
COMPILER: DLG, Nov 1985

NAME: MILLUNGERA
NUMBER: 59
STYLE: Depositional
BASIC FORM: Plain
SOILS: Yellow sands (Uc5.22), grey self-mulching clays (Ug5.2)
SOILS ASSOCIATION: AC20, CC73
DESCRIPTION: Sandy outwash plain of the Saxby River which has been modified by aeolian action
REGOLITH: Thin veneer of sandy alluvium modified by wind action. Inliers of fine alluvium of the Quaternary Wondoola beds
GEOLOGY: Mesozoic sediments of the Carpentaria Basin, overlain by Cainozoic units
ELEVATION: 15 - 180
RELIEF: Very low
MINOR LANDFORMS: Low rises of Mesozoic sediments
BOUNDARIES: Area of aeolian-modified sandy alluvium
REFERENCES: Smart & others (1970), Grimes & Doutch (1978), Grimes (1973), Doutch & others (1970), Perry & others (1964), Twidale (1964, 1966b), Simpson & Doutch (1977)
TOPOGRAPHIC MAPS:
GEOLOGICAL MAPS: Northern Eromanga, Carpentaria and Karumba Basins 1:1m
OTHER SOURCES: CSIRO Land Research Series Nos 11, 16
COMMENTS:
COMPILER: DLG, Nov 1985

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NAME: CLARAVILLE
NUMBER: 60
STYLE: Depositional
BASIC FORM: Floodout plain
SOILS: Grey earths (Gn2.8), mottled yellow earths (Gn2.63), sands (Uc5.2)
SOILS ASSOCIATION: QM1, AC20,21, MV1
DESCRIPTION: Old floodout plain, formed by fans from higher ground to the east
REGOLITH: Old fluvial deposits (Claraville beds)
GEOLOGY: Mesozoic sediments of the Carpentaria Basin, overlain by Cainozoic sediments
ELEVATION: 10 - 300
RELIEF: Low - very low
MINOR LANDFORMS:
BOUNDARIES: For northern boundary, see Blackbull unit. Units to the east are erosional, Wondoola unit to the west is a 'black soil' floodplain
REFERENCES: Smart & others (1980), Grimes & Doutch (1978), Simpson & Doutch (1977), Twidale (1964, 1966b), Perry & others (1964)
TOPOGRAPHIC MAPS:
GEOLOGICAL MAPS: Carpentaria and Karumba Basins, Northern Eromanga Basin 1:1m
OTHER SOURCES: Atlas of Australian Soils, CZCS imagery, CSIRO Land Research Series Nos 11,16
COMMENTS:
COMPILER: DLG, Nov 1985

NAME: STRATHPARK
NUMBER: 61
STYLE: Erosional
BASIC FORM: Plain
SOILS: Sands (Uc4.2, Uc 5.2), yellow earths (Gn2.21)
SOILS ASSOCIATION: JK18,19, AC20, AB35, Ms18
DESCRIPTION: Residual plain on Mesozoic rocks, dissected in the south
REGOLITH: Ferruginous duricrust, residual sand
GEOLOGY: Mesozoic sediments of the Carpentaria Basin
ELEVATION: 220 - 450
RELIEF: Low
MINOR LANDFORMS:
BOUNDARIES: Depositional unit to the west, high rugged country to the east
REFERENCES: Smart & others (1980), Twidale (1964, 1966b), Perry & others (1964), Day & others (1983)
TOPOGRAPHIC MAPS:
GEOLOGICAL MAPS: Carpentaria and Karumba Basins 1:1m
OTHER SOURCES: CSIRO Land Research Series Nos 11, 16
COMMENTS:
COMPILER: DLG, Nov 1985

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NAME: GREGORY
NUMBER: 62
STYLE: Erosional
BASIC FORM: Tableland
SOILS: Sands (Uc4.1), red earths (Gn2.11)
SOILS ASSOCIATION: JJ11, Mz29
DESCRIPTION: Dissected tablelands, with plateau remnants
REGOLITH: Ferruginous duricrust on plateau surfaces, residual sand
GEOLOGY: Mesozoic sandstones of the Carpentaria Basin
ELEVATION: 300 - 950
RELIEF: Moderate - high (low on plateau surfaces)
MINOR LANDFORMS:
BOUNDARIES: Area of rugged landform along boundary of Carpentaria Basin
REFERENCES: Smart & others (1980), Day & others (1983), Perry & others (1964), Twidale (1964, 1966b)
TOPOGRAPHIC MAPS:
GEOLOGICAL MAPS: Carpentaria and Karumba Basins 1:1m
OTHER SOURCES: CSIRO Land Research Series Nos 11, 16
COMMENTS:
COMPILER: DLG, Nov 1985

NAME: CHUDLEIGH
NUMBER: 63
STYLE: Basalt
BASIC FORM: Uplands
SOILS: Red friable earths (Gn3.12)
SOILS ASSOCIATION: Mo31
DESCRIPTION: Irregular lava plain, which straddles the Great Divide, and has flows down to the east, south and west.
REGOLITH: Minor only (colluvium, alluvium, soils etc)
GEOLOGY: Cainozoic basalt and associated intercalated sediments
ELEVATION: ?700 - 1000
RELIEF: Low - moderate
MINOR LANDFORMS:
BOUNDARIES: Limit of basalt
REFERENCES: Twidale (1956c, 1964, 1966b), Perry & others (1964), Robertson (1976b), Stephenson & Griffin (1976), Stephenson and others (1980)
TOPOGRAPHIC MAPS:
GEOLOGICAL MAPS: Queensland 1:1m
OTHER SOURCES: Atlas of Australian Soils, CSIRO Land Research Series Nos 11, 16
COMMENTS: Sapphires, peridot and zircon are present in the basalt and associated sediments
COMPILER: DLG, Nov 1985

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NAME: STARBRIGHT
NUMBER: 64
STYLE: Erosional
BASIC FORM: Plain
SOILS: Yellow earths (Gn2.2), sands (Uc2.1)
SOILS ASSOCIATION: MR3, Mr13, Cd29
DESCRIPTION: Laterite plain
REGOLITH: Ferruginous duricrust, alluvium, residual sand. Silicified Tertiary sediments beneath duricrust
GEOLOGY: Palaeozoic granites and sediments of the Burdekin Basin
ELEVATION: 300 - 400
RELIEF: Low - moderate
MINOR LANDFORMS:
BOUNDARIES: Edge of laterite area
REFERENCES: Wyatt (1968, 1970, 1978), Day & others (1983)
TOPOGRAPHIC MAPS:
GEOLOGICAL MAPS: Townsville 1:250 000; Burdekin - Townsville Region 1:1m
OTHER SOURCES:
COMMENTS:
COMPILER: DLG, Nov 1985

NAME: CARANDOTTA
NUMBER: 65
STYLE: Depositional
BASIC FORM: Plain
SOILS: Brown self-mulching clays (Ug5.3)
SOILS ASSOCIATION: MM34, 36, 48
DESCRIPTION: Alluvial outwash plain
REGOLITH: Fine alluvium ('black soil')
GEOLOGY: Cambrian sediments of the Georgina Basin, overlain by Cainozoic units
ELEVATION: 170 - 310
RELIEF: Very low
MINOR LANDFORMS:
BOUNDARIES: Limit of 'black soil' alluvium
REFERENCES: Stewart (1954)
TOPOGRAPHIC MAPS:
GEOLOGICAL MAPS: Mt. Isa, Urandangie 1:250 000; Georgina Basin 1:500 000
OTHER SOURCES: CZCS imagery, Atlas of Australian Soils, CSIRO Land Research Series No 3
COMMENTS:
COMPILER: DLG, Nov 1985

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NAME: SPLIT ROCK
NUMBER: 66
STYLE: Erosional
BASIC FORM: Plain
SOILS: Red earths (Gn2.1)
SOILS ASSOCIATION: Mz34
DESCRIPTION: Gently undulating plain
REGOLITH: Duricrust - mainly ferruginous, but may be siliceous in part (Stewart, 1954, describes silicified mottled and pallid zones). The weathered profile is up to 24m thick with a 2m ferruginous crust
GEOLOGY: Mesozoic sandstones and mudstones of the Northern Territory Shelf
ELEVATION: 300
RELIEF: Low - very low
MINOR LANDFORMS:
BOUNDARIES: Area of Mesozoic sandstone
REFERENCES: Day & others (1983), Stewart (1954)
TOPOGRAPHIC MAPS:
GEOLOGICAL MAPS: Camooweal !:250 000
OTHER SOURCES: CSIRO Land Research Series No 3
COMMENTS:
COMPILER: DLG, Nov 1985

NAME:	PILPAH
NUMBER:	67
STYLE:	Erosional
BASIC FORM:	Plain
SOILS:	Red earths (Gn2.12), Shallow loams (Um1.4, Um6.22), duplex soils (Dr2)
SOILS ASSOCIATION:	My132, Fz37, Ge4, Oa and Od units
DESCRIPTION:	Undulating plain with low ranges
REGOLITH:	Some ferruginous duricrust
GEOLOGY:	Cambrian carbonates and shales of the Georgina Basin, Proterozoic metamorphics
ELEVATION:	250 - 330
RELIEF:	Low - moderate
MINOR LANDFORMS:	Floodplain of the Buckley River
BOUNDARIES:	Split Rock unit to the north is laterite-mantled, units to the west and south are depositional, Barkley unit to the west is a black soil plain, and Isa unit to the east is more rugged and wholly underlain by Precambrian metam
REFERENCES:	Stewart (1954)
TOPOGRAPHIC MAPS:	
GEOLOGICAL MAPS:	Mt Isa 1:250 000; Georgina Basin 1:500 000
OTHER SOURCES:	CSIRO Land Research Series No 3
COMMENTS:	
COMPILER:	DLG, Nov 1985

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NAME:	CLONAGH
NUMBER:	68
STYLE:	Depositional
BASIC FORM:	Floodplain
SOILS:	Self-mulching clays (Ug5.2, 5.3), red earths (Gn2.1)
SOILS ASSOCIATION:	MM and CC units, Mu18
DESCRIPTION:	Outwash floodplain
REGOLITH:	Alluvium, residual sand. Includes the Quaternary Wondoola beds. Ferruginous duricrust in a small part of the area
GEOLOGY:	Mesozoic sediments of the Carpentaria Basin overlain by Cainozoic units
ELEVATION:	100? - 250
RELIEF:	Low - very low
MINOR LANDFORMS:	Low erosional rises
BOUNDARIES:	Boundary with the Wondoola unit to the northeast based on CZCS imagery pattern - the Clonagh unit shows zones of differing response parallel to drainage, possibly a result of differing materials from the Isa unit to the west
REFERENCES:	Smart & others (1980), Perry & others (1964), Twidale (1966a,b;1964), Day & others (1983)
TOPOGRAPHIC MAPS:	
GEOLOGICAL MAPS:	Dobbyn, McKinlay, Julia Creek, Cloncurry 1:250 000; Northern Eromanga Basin, Carpentaria and Karumba Basins 1:1m
OTHER SOURCES:	CZCS imagery, CSIRO Land Research Series Nos 11, 16
COMMENTS:	
COMPILER:	DLG, Nov 1985

NAME: STURGEON
NUMBER: 69
STYLE: Basalt
BASIC FORM: Tableland
SOILS: Red earths (Gn2.12), cracking clays (Ug5.1)
SOILS ASSOCIATION: My37, Kb23
DESCRIPTION: Broad domed basalt tableland, with dissected scarp margins, and volcanic vents
REGOLITH: Minor only (soils, colluvium, alluvium etc)
GEOLOGY: Cainozoic basalt
ELEVATION: 300? - 1000
RELIEF: Low - moderate (high at margins)
MINOR LANDFORMS:
BOUNDARIES: Area of basalt
REFERENCES: Twidale (1956c, 1964, 1966b), Perry & others (1964), Stephenson & Griffin (1976), Stephenson & others (1980)
TOPOGRAPHIC MAPS:
GEOLOGICAL MAPS: Hughenden, Richmond, Clarke River 1:250 000
OTHER SOURCES: CZCS imagery, Atlas of Australian Soils, CSIRO Land Research Series Nos 11, 16
COMMENTS:
COMPILER: DLG, Nov 1985

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NAME: CAMPASPE
NUMBER: 70
STYLE: Erosional
BASIC FORM: Plain
SOILS: Yellow earths (Gn2.22), red earths (Gn2.12)
SOILS ASSOCIATION: MS8, My40
DESCRIPTION: Laterite plain grading to partly dissected low plateau
REGOLITH: Tertiary sandstone (Campaspe beds) capped with ferricrete, and overlying laterite on older Tertiary sediments (Southern Cross Formation). Thick alluvium (including old alluvium of the Sellheim Formation which is partly mottled and ferruginised) is present in some areas
GEOLOGY: Palaeozoic granites of the Lolworth - Ravenswood Block, Palaeozoic sediments of the Drummond Basin, overlain by Cainozoic units
ELEVATION: 200 - 350
RELIEF: Low - moderate
MINOR LANDFORMS: Basalt landforms
BOUNDARIES: Edge of area of laterite and Tertiary sediments
REFERENCES: Wyatt (1968), Day & others (1983), Marks (1913), Wyatt & others (1970), Reid (1917), Clarke & Paine (1970), Wyatt (1970), Saint-Smith (1921), Morton (1945), Wyatt & others (1971)
TOPOGRAPHIC MAPS:
GEOLOGICAL MAPS: Townsville, Charters Towers 1:250 000, Burdekin - Townsville Region 1:1m
OTHER SOURCES:
COMMENTS:
COMPILER: DLG, Nov 1985

NAME:	HATCHES CREEK
NUMBER:	71
STYLE:	Erosional
BASIC FORM:	Hills & Ranges
SOILS:	Stony sands, stone-covered soils on lower slopes and in valleys, minor red earths and some yellow earths
SOILS ASSOCIATION:	BA13,23,40, My123, My106
DESCRIPTION:	Hills to undulating ridges and ranges on sandstone and quartzite; flat topped commonly steep-sided hills and ranges on sandstone, siltstone and shale
REGOLITH:	Bare rocks,some laterite duricrust on hills and ridges
GEOLOGY:	Proterozoic sediments, minor basic and acid volcanics, some granite (Tennant Creek Inlier)
ELEVATION:	Average 150-300 m
RELIEF:	Up to 200 m
MINOR LANDFORMS:	Low dissected plateaus on limestone, siltstone and sandstone; hills and ridges with undulating valleys on basic rocks; outwash plains and fans
BOUNDARIES:	Surrounded by undulating plains, low hills to hilly slopes, sand plains and some dunes
REFERENCES:	
TOPOGRAPHIC MAPS:	Relief Map of Australian 1:5 m
GEOLOGICAL MAPS:	Australia 1:2.5 nm & 1:5 m; Cainozoic of the NT 1:2.5 m; 1:250 000 Geological Series
OTHER SOURCES:	Relief and Landforms of Australia 1:5 m; Cainozoic Cover and Weathering 1:10 m; Sheets 8, 10 Atlas of Australian Soils; Australian Major Structur
COMMENTS:	
COMPILER:	GWD'A, Nov 1985

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NAME:	ANNITOWA
NUMBER:	72
STYLE:	Erosional/depositional
BASIC FORM:	Undulating plains
SOILS:	Red earthy sands (on plains and swales), red siliceous sands (on the sand rises), shallow gravelly and stony soils (on ridges and hills)
SOILS ASSOCIATION:	AB31, My80, 126,127, BA44, BY4
DESCRIPTION:	Flat to gently undulating sand plains, broad low sand rises and swales
REGOLITH:	Surface scatter of iron gravels, undulating ridge and slope terrain on lateritised sediments and some basic rocks
GEOLOGY:	Cambrian and Cambro-Ordovician sedimentary rocks, some Devonian rocks (Georgina Basin)
ELEVATION:	150 - 300
RELIEF:	Less than 10 m
MINOR LANDFORMS:	Small alluvial flats, some claypans, stone covered ridges, broken terrain on dolomite, limestone, shale and sandstone
BOUNDARIES:	Surrounded by low hills, ranges, dissected plateaux, swamps
REFERENCES:	
TOPOGRAPHIC MAPS:	Relief map of Australia 1:5m
GEOLOGICAL MAPS:	Australia 1:5m; Cainozoic of the NT 1:2.5m; various 1:250 000
OTHER SOURCES:	Relief and Landforms 1:5m; Atlas of Australian Soils Sheets 8 and 10; Australian Major Structural Domains 1:5m
COMMENTS:	
COMPILER:	GWD'A, Nov 1985

NAME:	AUSTRAL
NUMBER:	73
STYLE:	Erosional
BASIC FORM:	Low plateau
SOILS:	Pedal and non-pedal calcareous loamy earths (Gc2.21, Gc1.2), duplex soils (Dr2.33)
SOILS ASSOCIATION:	Lh2, Ld2, Oc76
DESCRIPTION:	Elongate low plateau, dissected by the Georgina River and Pituri Creek, grading to plains
REGOLITH:	Tertiary freshwater limestone (Austral Downs Limestone), silicified in part. Basal zone rich in ferruginous detritus eroded from pre-existing ferruginous duricrust. Overlain by thin unconsolidated Quaternary deposits
GEOLOGY:	Cambrian carbonates of the Georgina Basin, overlain by Cainozoic units.
ELEVATION:	130 - 210
RELIEF:	Low
MINOR LANDFORMS:	Low hills and ridges
BOUNDARIES:	Area of Austral Downs Limestone
REFERENCES:	Paten (1964), Lloyd (1968), Day & others (1983), Randal (1978)
TOPOGRAPHIC MAPS:	
GEOLOGICAL MAPS:	Urandangie, Glenormiston 1:250 000; Georgina Basin 1:500 000
OTHER SOURCES:	Atlas of Australian Soils
COMMENTS:	
COMPILER:	DLG, Nov 1985

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NAME:	KOONOOMOORINNA
NUMBER:	74
STYLE:	Depositional
BASIC FORM:	Plain
SOILS:	Clays (Ug5), siliceous sands (Uc1.2), red earths (Gn2.12)
SOILS ASSOCIATION:	CC units, B51, My144
DESCRIPTION:	Sand plains with NNE to NNW-trending aeolian seif dunes and areas of reticulate dunes. Interdune claypans
REGOLITH:	Aeolian sand, alluvial-lacustrine clays, presumably overlying weathered Tertiary Eyre Formation
GEOLOGY:	Cretaceous sediments of the Eromanga Basin, overlain by Cainozoic units
ELEVATION:	60 - 100
RELIEF:	Low (- moderate?)
MINOR LANDFORMS:	
BOUNDARIES:	Andree unit to the south has more claypans and alluvial tracts
REFERENCES:	
TOPOGRAPHIC MAPS:	
GEOLOGICAL MAPS:	Cordillo, Barrolka, Durham Downs 1:250 000; Northeast South Australia, Central Eromanga Basin 1:1m
OTHER SOURCES:	CZCS imagery, Atlas of Australian Soils
COMMENTS:	
COMPILER:	DLG, Nov 1985

NAME: OBAN
NUMBER: 75
STYLE: Depositional
BASIC FORM: Plain
SOILS: Red earths (Gn2.12)
SOILS ASSOCIATION: My132
DESCRIPTION: Residual sand plain
REGOLITH: Residual sand, and old alluvium with aeolian reworking. Minor laterite on outcrops of Cambrian sediments
GEOLOGY: Cambrian carbonates of the Georgina Basin
ELEVATION: 190 - ?340
RELIEF: Very low
MINOR LANDFORMS:
BOUNDARIES: From geology and CZCS imagery
REFERENCES: Stewart (1954), Noakes & others (1959),
TOPOGRAPHIC MAPS:
GEOLOGICAL MAPS: Urandangie 1:250 000
OTHER SOURCES: CZCS imagery, CSIRO Land Research Series No 3
COMMENTS:
COMPILER: DLG, Nov 1985

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NAME: ROLLING DOWNS
NUMBER: 76
STYLE: Erosional
BASIC FORM: Plain
SOILS: Grey and brown self-mulching clays (Ug5.2, Ug5.3)
SOILS ASSOCIATION: MM5, CB2
DESCRIPTION: Undulating plain
REGOLITH: Deep clay soils, alluvium. Occasional outliers of silicified Tertiary sandstone, and areas of deeply weathered Mesozoic rock
GEOLOGY: Cretaceous sediments of the Eromanga and Carpentaria Basins
ELEVATION: 170? - 370
RELIEF: Low
MINOR LANDFORMS: Small mesas
BOUNDARIES: Area of erosional black soil plains
REFERENCES: Twidale (1966b)
TOPOGRAPHIC MAPS:
GEOLOGICAL MAPS: Northern Eromanga, Central Eromanga, Carpentaria and Karumba Basins 1:1m
OTHER SOURCES: CZCS imagery, Atlas of Australian Soils
COMMENTS:
COMPILER: DLG, Nov 1985,

NAME:	BIRRICANNIA
NUMBER:	77
STYLE:	Erosional
BASIC FORM:	Low ridge
SOILS:	Yellow earths (Gn2.22), duplex soils (Dr2.13), loams (Um1.4)
SOILS ASSOCIATION:	MS2, Oa5, Fz16,17, My29
DESCRIPTION:	Low ridge, with crest rising from south to north. Scarp up to 30m high along western margin
REGOLITH:	Silicified and lateritised sediments of the Tertiary Glendower Formation; alluvium in the south
GEOLOGY:	Cretaceous sediments of the Eromanga Basin, overlain by Cainozoic units
ELEVATION:	215 - 430
RELIEF:	Low
MINOR LANDFORMS:	Alluvial tracts
BOUNDARIES:	Outcrop area of Glendower Formation. Scarp down to Rolling Downs unit to the west
REFERENCES:	Day & others (1983), Vine (1970), Coventry (1979)
TOPOGRAPHIC MAPS:	
GEOLOGICAL MAPS:	Tangorin, Muttaburra, Longreach 1:250 000; Northern Eromanga Basin 1:1m
OTHER SOURCES:	CZCS imagery, Atlas of Australian Soils
COMMENTS:	
COMPILER:	DLG, Nov 1985

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NAME:	BARCALDINE
NUMBER:	078
STYLE:	Erosional/depositional
BASIC FORM:	Plain
SOILS:	Red earths (Gn2.12), yellow earths (Gn2.22), cracking clays (Ug5.2)
SOILS ASSOCIATION:	My24, MS2,5,7, CC units
DESCRIPTION:	Sandplains of residual or colluvial sand, with large alluvial depositional areas.
REGOLITH:	Residual or colluvial sand, fine alluvium dating back to the Pleistocene. Areas of weathered Tertiary Campaspe beds in the north, and minor areas of ferruginised and/or silicified Glendower Formation . Some of the outcropping Mesozoic rocks are deeply weathered. Day & others (1983) show laterite covering all the area.
GEOLOGY:	Mesozoic sediments of the Eromanga Basin, overlain by Cainozoic units
ELEVATION:	230 - 400
RELIEF:	Low - very low
MINOR LANDFORMS:	Low rubbly rises
BOUNDARIES:	Black soil plains of the Rolling Downs unit and outcrop of Glendower Formation (Birricannia unit) to the west; area of residual sand over Mesozoic sediments (Webb unit) to the east
REFERENCES:	Day & others (1983), Vine (1970), Coventry (1979)
TOPOGRAPHIC MAPS:	
GEOLOGICAL MAPS:	Tangorin, Muttaburra, Longreach 1:250 000
OTHER SOURCES:	CZCS imagery
COMMENTS:	
COMPILER:	DLG, Nov 1985

NAME:	WEBB
NUMBER:	79
STYLE:	Erosional
BASIC FORM:	Plateau
SOILS:	Red earths (Gn2.12)
SOILS ASSOCIATION:	My units
DESCRIPTION:	Gently sloping sandy upland
REGOLITH:	Residual sand. Mesozoic sediments where outcropping have been kaolinised, and in part silicified and feruginised
GEOLOGY:	Mesozoic sediments of the Eromanga Basin
ELEVATION:	250 - 500
RELIEF:	Low
MINOR LANDFORMS:	Hills
BOUNDARIES:	Areas to east and west have residual sand overlying Tertiary sediments. Shows very markedly on CZCS imagery
REFERENCES:	D.A. Senior (1973), Whitehouse (1940), Day & others (1983), Coventry (1979)
TOPOGRAPHIC MAPS:	
GEOLOGICAL MAPS:	Tangorin, Buchanan, Galilee, Jericho 1:250 000; Central Eromanga Basin 1:1m
OTHER SOURCES:	CZCS imagery
COMMENTS:	Forms part of Great Divide in the north
COMPILER:	DLG, Nov 1985

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NAME:	MINGOBAR
NUMBER:	80
STYLE:	Erosional
BASIC FORM:	Range
SOILS:	Yellow earths (Gn2.22), loams (Um1.4), red earths (Gn2.1)
SOILS ASSOCIATION:	MS2, Fz7, My,Mz units
DESCRIPTION:	Low range
REGOLITH:	Minor residual sand and alluvium. Some ferruginisation and silicification
GEOLOGY:	Permo-Triassic rocks of the Galilee Basin
ELEVATION:	250 - 600
RELIEF:	Moderate
MINOR LANDFORMS:	
BOUNDARIES:	Area of outcrop of Permo-Triassic rocks
REFERENCES:	Day & others (1983), Olgers (1970), Coventry (1970)
TOPOGRAPHIC MAPS:	
GEOLOGICAL MAPS:	Buchanan, Jericho, Longreach 1:250 000; Central Eromanga Basin 1:1m
OTHER SOURCES:	CZCS imagery, CSIRO Land Research Series No 39
COMMENTS:	
COMPILER:	DLG, Nov 1985

NAME:	GALILEE
NUMBER:	81
STYLE:	Erosional
BASIC FORM:	Plain
SOILS:	Yellow earths (Gn2.2), red earths (Gn2.12), duplex soils (Dy3)
SOILS ASSOCIATION:	MS1,2, Ms2, My25,26, Vc3, Vd2
DESCRIPTION:	Elevated plain with partly internal drainage, straddling the Great Divide
REGOLITH:	Residual sand and gravel, overlying Tertiary gravels with a mainly ferruginous duricrust. Alluvium and lake deposits in drainage sumps
GEOLOGY:	Mesozoic sediments of the Galilee and Eromanga Basins, overlain by Cainozoic sediments
ELEVATION:	280 - 450
RELIEF:	Very low
MINOR LANDFORMS:	Ephemeral lakes
BOUNDARIES:	Outcrop of Triassic rocks in the east, limit of Tertiary sediments in the west
REFERENCES:	D.A. Senior (1973), Day & others (1983), Whitehouse (1940a), Coventry (1979)
TOPOGRAPHIC MAPS:	
GEOLOGICAL MAPS:	Buchanan, Galilee, Jericho 1:250 000
OTHER SOURCES:	CZCS imagery, CSIRO Land Research Series No 39
COMMENTS:	
COMPILER:	DLG, Nov 1985

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NAME:	BELYANDO
NUMBER:	82
STYLE:	Erosional/depositional
BASIC FORM:	Plain
SOILS:	Red earths (Gn2.12), yellow earths (Gn2.22, 2.21), self-mulching clays (Ug5)
SOILS ASSOCIATION:	My, MS, CC, MM units, Ms5
DESCRIPTION:	Erosional plain on Tertiary sediments, with broad areas of Recent alluvial deposition. Rises to a plateau in the far northeast
REGOLITH:	Deeply weathered Tertiary sediments (including Campaspe beds and Suttor Formation), lateritized and possibly silicified in part, overlain by alluvium of the Belyando and Suttor River systems
GEOLOGY:	Palaeozoic sediments of the Drummond Basin, Palaeozoic metamorphics, Carboniferous volcanics, Permian - Triassic sediments of the Bowen and Galilee Basins, overlain by Cainozoic units
ELEVATION:	180 - 400
RELIEF:	Low
MINOR LANDFORMS:	
BOUNDARIES:	Limit of Tertiary and younger rocks
REFERENCES:	Day & others (1983), Malone & others (1964), Swarbrick (1974), d'Auvergne (1984)
TOPOGRAPHIC MAPS:	
GEOLOGICAL MAPS:	Fitzroy Region 1:1m; many 1:250 000
OTHER SOURCES:	CSIRO Land Research Series No 39
COMMENTS:	
COMPILER:	DLG, Nov 1985

NAME:	CUNNAVALLA
NUMBER:	83
STYLE:	Erosional
BASIC FORM:	Plain
SOILS:	Loams (Um5.5, Um5.3), brown self mulching clays (Ug5.3)
SOILS ASSOCIATION:	Fa45, MM57, BE14
DESCRIPTION:	'Rolling Downs' type plain with alluvial tracts along creeks
REGOLITH:	Minor only (alluvium, soils, lag of silcrete boulders etc)
GEOLOGY:	Cretaceous sediments of the Eromanga Basin
ELEVATION:	100 - 200
RELIEF:	Low
MINOR LANDFORMS:	
BOUNDARIES:	Area of non-deeply weathered rock
REFERENCES:	Senior & others (1968), Mabbutt (1968)
TOPOGRAPHIC MAPS:	
GEOLOGICAL MAPS:	Eromanga, Barrolka 1:250 000; Central Eromanga Basin 1:1m
OTHER SOURCES:	CZCS imagery
COMMENTS:	
COMPILER:	DLG, Nov 1985

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NAME:	LENTON
NUMBER:	84
STYLE:	Basalt
BASIC FORM:	Plateau
SOILS:	Self-mulching clays (Ug5.1)
SOILS ASSOCIATION:	Kb25, Ke19
DESCRIPTION:	Dissected plateau
REGOLITH:	Minor only (colluvium, alluvium, soils etc)
GEOLOGY:	Permo-Triassic sediments of the Bowen Basin, overlain by the Tertiary Exevale Formation, Cainozoic Basalt, and the Tertiary Suttor Formation
ELEVATION:	200 - ?400
RELIEF:	moderate
MINOR LANDFORMS:	
BOUNDARIES:	Area of basalt
REFERENCES:	
TOPOGRAPHIC MAPS:	
GEOLOGICAL MAPS:	Mount Coolon 1:250 000; Fitzroy Region 1:1m
OTHER SOURCES:	
COMMENTS:	Remnants of once extensive basalt flows
COMPILER:	DLG, Nov 1985

NAME:	BOWEN
NUMBER:	85
STYLE:	Erosional
BASIC FORM:	Hills
SOILS:	Various
SOILS ASSOCIATION:	Various
DESCRIPTION:	Undulating to hilly country
REGOLITH:	Minor areas of weathered Tertiary sediments (Duaringa and Exevale Formations) with ferruginous duricrust and some siliceous cappings.
GEOLOGY:	Permian - Triassic sediments of the Bowen Basin, with areas of Cainozoic sediments
ELEVATION:	150 - 700
RELIEF:	Low - high
MINOR LANDFORMS:	
BOUNDARIES:	Limit of outcrop of Bowen Basin sediments
REFERENCES:	Day & others (1983), Malone & others (1964)
TOPOGRAPHIC MAPS:	
GEOLOGICAL MAPS:	Queensland 1:2.5m
OTHER SOURCES:	
COMMENTS:	
COMPILER:	DLG, Nov 1985

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NAME:	EUNGELLA
NUMBER:	86
STYLE:	Erosional
BASIC FORM:	Ranges
SOILS:	Duplex soils, friable earths, minimal loams
SOILS ASSOCIATION:	Qa11,12, Mj10, ME2, Tb120, Ub84, Fz14,15
DESCRIPTION:	Ranges
REGOLITH:	Minor only (colluvium, alluvium, soils, coastal deposits etc)
GEOLOGY:	Palaeozoic metamorphics, sediments and intrusives
ELEVATION:	150 - 1250
RELIEF:	High
MINOR LANDFORMS:	Narrow coastal flats
BOUNDARIES:	Surrounded by less rugged and lower ground
REFERENCES:	
TOPOGRAPHIC MAPS:	Clermont 1:1m
GEOLOGICAL MAPS:	Fitzroy Region 1:1m
OTHER SOURCES:	CZCS imagery, Atlas of Australian Soils
COMMENTS:	
COMPILER:	DLG, Nov 1985

NAME:	PROSERPINE
NUMBER:	87
STYLE:	Depositional
BASIC FORM:	Plain
SOILS:	Duplex soils (Dy3.41, Dd1.33)
SOILS ASSOCIATION:	Tb118, HG7
DESCRIPTION:	Coastal, low-lying plain
REGOLITH:	Alluvium, overlying Tertiary sediments of the Hillsborough Basin, with ferruginous duricrust in places. Pliocene - Pleistocene sediments at Edgecombe Bay have some ferricrete capping. Quaternary coastal sediments
GEOLOGY:	Palaeozoic sediments and volcanics
ELEVATION:	0 - ?100
RELIEF:	Low - very low
MINOR LANDFORMS:	
BOUNDARIES:	Edge of depositional plain and Tertiary sediments
REFERENCES:	Green & Bateman (1981), Clarke & others (1971), Paine & others (1974)
TOPOGRAPHIC MAPS:	
GEOLOGICAL MAPS:	Proserpine, Bowen 1:250 000
OTHER SOURCES:	
COMMENTS:	
COMPILER:	DLG, Nov 1985

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NAME:	WHITSUNDAY
NUMBER:	88
STYLE:	Erosional
BASIC FORM:	Range, rugged islands
SOILS:	Brown friable earths (Gn3.24)
SOILS ASSOCIATION:	ME2
DESCRIPTION:	Ranges and rugged islands
REGOLITH:	Minor only (colluvium, alluvium, soils etc)
GEOLOGY:	Palaeozoic and Mesozoic volcanics, sediments and intrusives
ELEVATION:	0 - 800
RELIEF:	High
MINOR LANDFORMS:	Narrow coastal flats
BOUNDARIES:	Low ground of the Proserpine unit to the west
REFERENCES:	
TOPOGRAPHIC MAPS:	Clermont 1:1m
GEOLOGICAL MAPS:	Burdekin - Townsville 1:1m; Proserpine 1:250 000
OTHER SOURCES:	CZCS imagery, Atlas of Australian Soils
COMMENTS:	
COMPILER:	DLG, Nov 1985

NAME: MACKAY
NUMBER: 89
STYLE: Depositional (/erosional)
BASIC FORM: Plain
SOILS: Duplex soils (Dy3.43, Dy3.42, Dy2.21), saline clays (Uf6.61)
SOILS ASSOCIATION: Va47,48, Ub85,87, J4, Sd1
DESCRIPTION: Coastal plains
REGOLITH: Alluvium, overlying Tertiary continental sediments. Coastal deposits
GEOLOGY: Palaeozoic volcanics and sediments, and Palaeozoic to Mesozoic granites
ELEVATION: 0 - 200
RELIEF: Low
MINOR LANDFORMS:
BOUNDARIES: Higher land of the Eungella unit to the west
REFERENCES:
TOPOGRAPHIC MAPS:
GEOLOGICAL MAPS: Mackay 1:250 000; Fitzroy Region 1:1m
OTHER SOURCES: CZCS imagery, Atlas of Australian Soils
COMMENTS:
COMPILER: DLG, Nov 1985

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NAME: GEORGINA
NUMBER: 90
STYLE: Depositional
BASIC FORM: Undulating plains
SOILS: Deep grey clay, gravel covered calcareous rises, cracking clays
SOILS ASSOCIATION: CC60,63, 76, MM46
DESCRIPTION: Flat to gently undulating plains with widely spaced narrow drainage ways
REGOLITH: Weathered clays
GEOLOGY: Cambrian sediments of the Georgina Basin
ELEVATION: 150
RELIEF: Less than 20 m
MINOR LANDFORMS: Plains with broad shallow depressions
BOUNDARIES: Edge of the deep grey clay
REFERENCES:
TOPOGRAPHIC MAPS: Relief map of Australia 1:5m
GEOLOGICAL MAPS: Cainozoic of the Northern Territory 1:2.5m; Australia 1:5m; various 1:250 000
OTHER SOURCES: Australian Relief and Landforms 1:5m; Atlas of Australian Soils Sheet 10; Australian Major Structural Domains 1:5m
COMMENTS:
COMPILER: GWD'A, Nov 1985

NAME:	MUNDUBBERA
NUMBER:	91
STYLE:	Erosional
BASIC FORM:	Undulating area
SOILS:	Mainly duplex soils
SOILS ASSOCIATION:	Many, including Tb, Ub, Sj and LK units
DESCRIPTION:	Undulating area
REGOLITH:	Areas of deeply weathered bedrock and laterite cover 10-20% of area. Some Tertiary basalt outliers capped with ferruginous duricrust and bauxite
GEOLOGY:	Palaeozoic metamorphics, Permian granite, Mesozoic sediments and volcanics, minor Tertiary basalt
ELEVATION:	100? - 600
RELIEF:	Moderate
MINOR LANDFORMS:	
BOUNDARIES:	More rugged units to the east
REFERENCES:	Whitaker & others (1974), Day & others (1983)
TOPOGRAPHIC MAPS:	
GEOLOGICAL MAPS:	Mundubbera 1:250 000
OTHER SOURCES:	Landsat imagery
COMMENTS:	
COMPILER:	DLG, Nov 1985

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NAME:	WARRABIN
NUMBER:	92
STYLE:	Depositional
BASIC FORM:	Plain
SOILS:	Brown self-mulching clays (Ug5.3)
SOILS ASSOCIATION:	MM59
DESCRIPTION:	Alluvial outwash plain at the headwaters of Kyabra Creek
REGOLITH:	Alluvium, probably overlying deeply weathered Winton Formation
GEOLOGY:	Cretceous sediments of the Eromanga Basin
ELEVATION:	150 - 180
RELIEF:	Low
MINOR LANDFORMS:	Low rises of deeply weathered Winton Formation; small areas of aeolian sand
BOUNDARIES:	Limit of alluvium in the area
REFERENCES:	Ingram (1971a)
TOPOGRAPHIC MAPS:	
GEOLOGICAL MAPS:	Eromanga 1:250 000; Central Eromanga Basin 1:1m
OTHER SOURCES:	CZCS imagery, Atlas of Australian Soils
COMMENTS:	
COMPILER:	DLG, Nov 1985

NAME:	BOULIA
NUMBER:	93
STYLE:	Depositional
BASIC FORM:	Floodplain
SOILS:	Self-mulching clays (Ug5.2, Ug5.3)
SOILS ASSOCIATION:	MM units, CC units
DESCRIPTION:	Floodplains of Hamilton, Burke, and Georgina Rivers
REGOLITH:	Thick alluvium
GEOLOGY:	Cambro-Ordovician sediments of the Georgina Basin and Mesozoic sediments of the Eromanga Basin, overlain by Cainozoic units
ELEVATION:	90 - ?350
RELIEF:	Low - very low
MINOR LANDFORMS:	Aeolian sand dunes
BOUNDARIES:	Limit of alluvial valley
REFERENCES:	
TOPOGRAPHIC MAPS:	
GEOLOGICAL MAPS:	Northwest Eromanga Basin 1:1m
OTHER SOURCES:	Atlas of Australian Soils, CZCS imagery
COMMENTS:	
COMPILER:	DLG, Nov 1985

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NAME:	ORINYA
NUMBER:	94
STYLE:	Depositional
BASIC FORM:	Sandplain
SOILS:	Red earths (Gn2.1)
SOILS ASSOCIATION:	My1, Mx1,35
DESCRIPTION:	Undulating sand plains with broad sandy rises; low tableland in north. No aeolian landforms
REGOLITH:	Sand, reworked from Tertiary and Quaternary deposits by alluvial and aeolian processes. Overlies weathered Tertiary sediments (Glendower Formation) with silcrete capping, and deeply weathered Cretaceous sandstones (Canaway Profile). Patches of silcrete gravel at surface
GEOLOGY:	Cretaceous sediments of the Eromanga Basin
ELEVATION:	200 - 260
RELIEF:	Low - very low
MINOR LANDFORMS:	Breakaways with outcrop of Tertiary and Mesozoic rocks
BOUNDARIES:	Limit of sandplain
REFERENCES:	Mabbutt (1969), Senior & Mabbutt (1979), Senior (1971), Abraham (1984)
TOPOGRAPHIC MAPS:	
GEOLOGICAL MAPS:	Quilpie 1:250 000
OTHER SOURCES:	CZCS imagery
COMMENTS:	
COMPILER:	DLG, Nov 1985

NAME:	MAYNESIDE
NUMBER:	95
STYLE:	Erosional
BASIC FORM:	Undulating country
SOILS:	Red earths (Gn2.11), loams (Um5.51, Um1.4), duplex soils (Dr2.33), brown self-mulching clays (Ug5.3), plastic clays (Uf6.31)
SOILS ASSOCIATION:	Mz42, Fa43, Fz36, Oc83, MM units, Ii7
DESCRIPTION:	Plains, grading to hills and breakaways
REGOLITH:	Deeply weathered Cretaceous sediments - includes Morney and Canaway Deep Weathering Profiles, Curalle Silcrete Profile. Overlain by deeply weathered sediments of Tertiary Glendower or Eyre Formation with silcrete capping
GEOLOGY:	Cretaceous sediments of the Eromanga Basin, overlain by Cainozoic units
ELEVATION:	100 - 400
RELIEF:	Low - moderate
MINOR LANDFORMS:	
BOUNDARIES:	From soils and geology maps, and CZCS imagery
REFERENCES:	Senior & others (1977), Senior & Mabbutt (1979), Senior (1979), Idnurm & Senior (1978), Day & others (1983), Senior & others (1978), Connah (1966)
TOPOGRAPHIC MAPS:	
GEOLOGICAL MAPS:	Northern Eromanga Basin 1:1m
OTHER SOURCES:	CZCS imagery, Atlas of Australian Soils
COMMENTS:	Precious opal occurs in the weathered profile
COMPILER:	DLG, Nov 1985

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NAME:	EMERALD
NUMBER:	96
STYLE:	Basalt
BASIC FORM:	Plains and hills
SOILS:	Self-mulching clays (Ug5.1)
SOILS ASSOCIATION:	Ke19, Kb10
DESCRIPTION:	Plain and hills (plugs) of volcanic origin, strongly eroded in places
REGOLITH:	Laterite possibly developed on basalt and intercalated Tertiary sediments
GEOLOGY:	Tertiary basalt and intercalated sediments
ELEVATION:	200 - 800
RELIEF:	Low - moderate
MINOR LANDFORMS:	
BOUNDARIES:	Area of Basalt
REFERENCES:	Day & others (1983), Veevers & others (1964)
TOPOGRAPHIC MAPS:	
GEOLOGICAL MAPS:	Fitzroy Region 1:1m
OTHER SOURCES:	Atlas of Australian Soils, CZCS imagery, CSIRO Land Research Series No 39
COMMENTS:	
COMPILER:	DLG, Nov 1985

NAME:	KIMBA
NUMBER:	97
STYLE:	Erosional
BASIC FORM:	Plateau
SOILS:	Red earths (Gn2.14)
SOILS ASSOCIATION:	Mw51
DESCRIPTION:	Sandy plateau
REGOLITH:	Residual sand overlying ferruginous duricrust developed in weathered Tertiary clayey sands of the Bulimba Formation
GEOLOGY:	Mesozoic sandstone of the Carpentaria and Laura Basins, overlain by Cainozoic units
ELEVATION:	140 - 360
RELIEF:	low
MINOR LANDFORMS:	
BOUNDARIES:	North and south boundaries are the limits of the duricrust; merges with the Jack and Bulimba units to the east and west
REFERENCES:	Smart & others (1980), Day & others (1983), Galloway & others (1970)
TOPOGRAPHIC MAPS:	Mitchell River 1:1m
GEOLOGICAL MAPS:	Hann River 1:250 000; Carpentaria and Karumba Basins 1:1m
OTHER SOURCES:	Atlas of Australian Soils, CZCS imagery, CSIRO Land Research Series No 26
COMMENTS:	Area where the Carpentaria and Laura Basins are connected
COMPILER:	DLG, Nov 1985

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NAME:	DUARINGA
NUMBER:	98
STYLE:	Erosional
BASIC FORM:	Valleyplains
SOILS:	Duplex soils (Dy3.43, Dy2.33, Dd1.33), self-mulching clays (Ug5), red earths (Gn2.1)
SOILS ASSOCIATION:	Va52, CC, MM units, HG6, My23, Mz5, Si6
DESCRIPTION:	Valley plains with low mesas and tablelands
REGOLITH:	Weathered Tertiary sediments of the Duaringa Formation with ferruginous duricrust capping over much of the area, alluvium along rivers, residual sand
GEOLOGY:	Permo-Triassic sediments of the Bowen Basin, overlain by Cainozoic sediments
ELEVATION:	100? - 250
RELIEF:	Low - moderate
MINOR LANDFORMS:	
BOUNDARIES:	Area of Tertiary sediment
REFERENCES:	Noon (1982a), Day & others (1983), Malone & others (1969)
TOPOGRAPHIC MAPS:	
GEOLOGICAL MAPS:	Fitzroy Region 1:1m
OTHER SOURCES:	CSIRO Land Research Series No 39
COMMENTS:	Oil shale in upper part of Duaringa Formation is weathered
COMPILER:	DLG, Nov 1985

NAME: SAINT LAWRENCE
NUMBER: 99
STYLE: Erosional
BASIC FORM: Plain
SOILS: Duplex soils
SOILS ASSOCIATION: Various
DESCRIPTION: Low plain
REGOLITH: Minor only (alluvium, colluvium etc)
GEOLOGY: Palaeozoic volcanics and sediments intruded by Palaeozoic to Mesozoic granites
ELEVATION: 0 - 200
RELIEF: Low
MINOR LANDFORMS: Coastal plains
BOUNDARIES: Higher, rugged Eungella and Boomer units to the west; Styx unit to the east is mainly depositional
REFERENCES:
TOPOGRAPHIC MAPS:
GEOLOGICAL MAPS: St Lawrence 1:250 000; Fitzroy Region 1:1m
OTHER SOURCES:
COMMENTS:
COMPILER: DLG, Nov 1985

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NAME: STYX
NUMBER: 100
STYLE: Depositional
BASIC FORM: Plain
SOILS: Duplex soils
SOILS ASSOCIATION: Various
DESCRIPTION: Low coastal plain
REGOLITH: Alluvium overlying lateritised Tertiary sediments
GEOLOGY: Permian and Mesozoic sediments, overlain by Cainozoic units
ELEVATION: 0 - ?100
RELIEF: Low - very low
MINOR LANDFORMS: Coastal plains
BOUNDARIES: Surrounding units are erosional
REFERENCES: Day & others (1983), Malone & others (1969)
TOPOGRAPHIC MAPS:
GEOLOGICAL MAPS: St Lawrence 1:250 000; Fitzroy Region 1:1m
OTHER SOURCES:
COMMENTS:
COMPILER: DLG, Nov 1985

NAME:	BOOMER
NUMBER:	101
STYLE:	Erosional
BASIC FORM:	Hills
SOILS:	Loams (Um1.4, Um4.1)
SOILS ASSOCIATION:	Fz10, 14; LK14, 20
DESCRIPTION:	Hills and low ranges
REGOLITH:	Minor only (alluvium, colluvium soils etc)
GEOLOGY:	Palaeozoic sediments intruded by Permian to Mesozoic granites; late Cretaceous volcanics
ELEVATION:	100? - 600
RELIEF:	Moderate - high
MINOR LANDFORMS:	Alluvial valley of Fitzroy River up to 5 km wide
BOUNDARIES:	Surrounded by areas of deposition, or low-lying erosional areas
REFERENCES:	
TOPOGRAPHIC MAPS:	
GEOLOGICAL MAPS:	Fitzroy Region 1:1m; Rockhampton, Duaringa 1:250 000
OTHER SOURCES:	CSIRO Land Research Series No 39
COMMENTS:	
COMPILER:	DLG, Nov 1985

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NAME:	ROCKHAMPTON
NUMBER:	102
STYLE:	Depositional
BASIC FORM:	Alluvialplain
SOILS:	Cracking clays (Ug5.2,5.3), saline clays (Uf6.61), duplex soils (Dy3.43)
SOILS ASSOCIATION:	CC units, MM units, J6, Va units
DESCRIPTION:	Low-lying coastal alluvial plain
REGOLITH:	Alluvium and coastal deposits
GEOLOGY:	Palaeozoic sediments and metamorphics intruded by Permian granite, overlain by Tertiary sediments up to 1000 m thick, and younger depsits
ELEVATION:	0 - ?100
RELIEF:	Very low - low
MINOR LANDFORMS:	Small erosional areas of Cainozoic sediment
BOUNDARIES:	Boundary of depositional plain
REFERENCES:	
TOPOGRAPHIC MAPS:	
GEOLOGICAL MAPS:	Rockhampton, Port Clinton 1:250 000; Fitzroy Region 1:1m
OTHER SOURCES:	CSIRO Land Research Series No 39
COMMENTS:	
COMPILER:	DLG, Nov 1985

NAME:	PARNASSUS
NUMBER:	103
STYLE:	Erosional
BASIC FORM:	Hills
SOILS:	Duplex soils (Dy3.41), sands (Uc2.1), loams (Um2.1)
SOILS ASSOCIATION:	Tb units, Cd units, Fu11
DESCRIPTION:	Undulating to hilly country
REGOLITH:	Minor only (colluvium, alluvium, soils, coastal sediments etc). Minor areas of Tertiary sediments
GEOLOGY:	Palaeozoic sediments and metamorphics, intruded by Permian to Mesozoic granite
ELEVATION:	0 - 750 (mostly below 200)
RELIEF:	Moderate
MINOR LANDFORMS:	Coastal flats
BOUNDARIES:	Depositional Rockhampton unit to the west
REFERENCES:	
TOPOGRAPHIC MAPS:	
GEOLOGICAL MAPS:	Port Clinton 1:250 000
OTHER SOURCES:	Atlas of Australian Soils
COMMENTS:	
COMPILER:	DLG, Nov 1985

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NAME:	TOBERMORY
NUMBER:	104
STYLE:	Erosional
BASIC FORM:	Hills, mountains and plateaux
SOILS:	Shallow stony sands and calcareous loams, red earthy and siliceous sands, duplex soils (Dr2.33), red earths, brown self mulching clays
SOILS ASSOCIATION:	BA 42-44, AB31, My128-131, Oc78,80, Fd1, Fz33,34, Mx31, MM units
DESCRIPTION:	Low hills, grading to cuestas, rugged mountain ridges, and dissected plateaux; flat to undulating sand plains and alluvial tracts
REGOLITH:	Alluvium and residual sand deposits over part of area; some stone covered ridges; surface soil covered with chert gravels; stony pavements; soils underlain by red-brown hardpan
GEOLOGY:	Cambro-Ordovician sediments of the Georgina Basin
ELEVATION:	130 - 300
RELIEF:	Low - high
MINOR LANDFORMS:	Aeolian seif dunes in southeast
BOUNDARIES:	Bounded by undulating plains and dunefields
REFERENCES:	
TOPOGRAPHIC MAPS:	Relief map of Australia 1:5 m
GEOLOGICAL MAPS:	Various 1:250 000; Georgina Basin 1:500 000; Northwest Eromanga Basin 1:1m; Australia, Cainozoic of the NT 1:2.5 m; Australia 1:5 m
OTHER SOURCES:	Australia Relief and Landforms 1:5m; Atlas of Australian Soils
COMMENTS:	
COMPILER:	DLG, GWD'A, Dec 1985

NAME: WHELAN
NUMBER: 105
STYLE: Erosional
BASIC FORM: Plain
SOILS: Duplex soils (Dr2.32), self mulching clays (Ug5.3)
SOILS ASSOCIATION: Qc9, MM units
DESCRIPTION: Undulating plain
REGOLITH: Alluvium, especially in the southwest; widespread residual siliceous and ferruginous gibbers from, and small areas of outcrop of weathered Tertiary sandstone (Marion Formation). Cretaceous rocks are deeply weathered (Morney Profile). Minor Tertiary siliceous sinter
GEOLOGY: Mesozoic sediments of the Eromanga Basin
ELEVATION: 75 - ?300
RELIEF: Low - moderate
MINOR LANDFORMS: Small steep hills
BOUNDARIES: Area of Mesozoic sediments. Bounded by depositional units, Toko unit (Cambrian limestone) and Isa unit (Precambrian metamorphics)
REFERENCES: Paten (1964), Day & others (1983), Reynolds (1965), Casey (1969), Randal (1978), Lloyd (1968)
TOPOGRAPHIC MAPS:
GEOLOGICAL MAPS: Mt Whelan, Glenormiston, Boulia 1:250 000; Northwest Eromanga Basin 1:1m
OTHER SOURCES:
COMMENTS:
COMPILER: DLG, Nov 1985

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NAME: NORANSIDE
NUMBER: 106
STYLE: Erosional
BASIC FORM: Plain
SOILS: Brown self-mulching clays (Ug5.3)
SOILS ASSOCIATION: MM48
DESCRIPTION: 'Black soil' plains
REGOLITH: Silicified Tertiary Noranside Limestone, overlying silicified sandstone of the Tertiary Marion Formation, and lateritised bedrock.
GEOLOGY: Sediments of the EromangaBasin, overlain by Tertiary units
ELEVATION: 150 - 225
RELIEF: Low
MINOR LANDFORMS:
BOUNDARIES: Area of Noranside Limestone
REFERENCES: Casey (1968), Paten (1964), Day & others (1983), Lloyd (1968), Randal (1978)
TOPOGRAPHIC MAPS:
GEOLOGICAL MAPS: Boulia 1:250 000
OTHER SOURCES:
COMMENTS:
COMPILER: DLG, Nov 1985

NAME:	COORABULKA
NUMBER:	107
STYLE:	Erosional
BASIC FORM:	Plains
SOILS:	Brown self-mulching clays (Ug5.3)
SOILS ASSOCIATION:	MM units
DESCRIPTION:	Undulating plains with low hills
REGOLITH:	About 10% of area has deeply weathered Cretaceous sediments (silicified, ferruginised) of Morney Profile
GEOLOGY:	Cretaceous sediments of the Eromanga Basin
ELEVATION:	90 - 200
RELIEF:	Low - moderate
MINOR LANDFORMS:	
BOUNDARIES:	Depositional Diamantina and Boulia units to the east and west. Differentiated from the Mayneside unit mainly by soils
REFERENCES:	Day & others (1983)
TOPOGRAPHIC MAPS:	
GEOLOGICAL MAPS:	Northwestern Eromanga Basin 1:1m
OTHER SOURCES:	CZCS imagery, Atlas of Australian Soils
COMMENTS:	Gradational between the Rolling Downs unit, and Mayneside or Haddon units
COMPILER:	DLG, Nov 1985

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NAME:	CORK
NUMBER:	108
STYLE:	Erosional
BASIC FORM:	Plains
SOILS:	Brown self-mulching clays (Ug5.3)
SOILS ASSOCIATION:	MM units
DESCRIPTION:	Plains with low ranges, and floodplains of the Diamantina River and its tributaries
REGOLITH:	Tertiary lake sediments (Old Cork beds and Mueller Sandstone) which are lateritised in part; alluvium
GEOLOGY:	Cretaceous sediments of the Eromanga Basin, overlain by Cainozoic sediments
ELEVATION:	150 - 200
RELIEF:	Low - moderate
MINOR LANDFORMS:	
BOUNDARIES:	Limits of Old Cork beds
REFERENCES:	Day & others (1983), Vine (1964a,b)
TOPOGRAPHIC MAPS:	
GEOLOGICAL MAPS:	Northern Eromanga Basin 1:1m; Mackunda 1:250 000
OTHER SOURCES:	
COMMENTS:	
COMPILER:	DLG, Nov 1985

NAME: WEIRITE
NUMBER: 109
STYLE: Erosional
BASIC FORM: Plateau
SOILS: Loams (Um1.4), red earths (Gn2.11), sands (Uc5.1), brown self-mulching clays (Ug5.3)
SOILS ASSOCIATION: Fz45, Mz42, AA17, MM35
DESCRIPTION: Sand-covered plateau
REGOLITH: Residual sand, overlying silicified Weirite beds, overlying duricrusted Winton Formation
GEOLOGY: Cretaceous sediments of the Eromanga Basin, overlain by Cainozoic units
ELEVATION: 200 - 350
RELIEF: Low (moderate at margins)
MINOR LANDFORMS:
BOUNDARIES: From geology
REFERENCES: Vine (1964b), Casey (1966), Day & others (1983)
TOPOGRAPHIC MAPS:
GEOLOGICAL MAPS: Winton 1:250 000; Northern Eromanga Basin 1:1m
OTHER SOURCES:
COMMENTS:
COMPILER: DLG, Nov 1985

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NAME: DRUMMOND
NUMBER: 110
STYLE: Erosional
BASIC FORM: Range
SOILS: Duplex soils (Dr2.33), minimal loamy soils (Um1.4)
SOILS ASSOCIATION: Oc25,26, Fz12, S111, HF2
DESCRIPTION: Hills and ranges
REGOLITH: Minor only (colluvium, alluvium, soils etc)
GEOLOGY: Palaeozoic sediments of the Drummond Basin; Palaeozoic metamorphics of the Anakie Inlier
ELEVATION: 300? - 800
RELIEF: Moderate - high
MINOR LANDFORMS:
BOUNDARIES:
REFERENCES:
TOPOGRAPHIC MAPS: Clermont 1:1m
GEOLOGICAL MAPS: Fitzroy Region 1:1m
OTHER SOURCES: CSIRO Land Research Series No 39
COMMENTS:
COMPILER: DLG, Nov 1985

NAME:	CLERMONT
NUMBER:	111
STYLE:	Erosional
BASIC FORM:	Hills
SOILS:	Hardsetting duplex soils
SOILS ASSOCIATION:	Qa9, HF2, Ro6, many others
DESCRIPTION:	Flat to hilly country
REGOLITH:	Fluvial 'emerald wash' and the older, lateritised Cainozoic Red Mountain Formation present over part of the area. Day & others (1983) show an undifferentiated weathering profile
GEOLOGY:	Palaeozoic metamorphics of the Anakie Inlier, intruded by Devonian granite; Permian sediments of the Galilee Basin
ELEVATION:	200 - 600
RELIEF:	Moderate - low
MINOR LANDFORMS:	
BOUNDARIES:	Ranges of Drummond unit to the west, and basalt of the Emerald unit to the east
REFERENCES:	Olgers (1969), Robertson (1974, 1976a), Day & others (1983)
TOPOGRAPHIC MAPS:	
GEOLOGICAL MAPS:	Emerald 1:250 000; Fitzroy Region 1:1m
OTHER SOURCES:	CZCS imagery, CSIRO Land Research Series No 39
COMMENTS:	Sapphires mined in the 'emerald wash' which covers part of the eastern part of the area
COMPILER:	DLG, Nov 1985

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NAME:	SIMPSON
NUMBER:	112
STYLE:	Depositional
BASIC FORM:	Dunsfield
SOILS:	Siliceous sands (Uc1.2)
SOILS ASSOCIATION:	B43
DESCRIPTION:	Aeolian sandplain dominated by NNW trending seif dunes; narrow interdune swales and corridor plains
REGOLITH:	Aeolian sand overlying finer sediments of alluvial or lacustrine origin. Sands grade from red to yellow and white from N to S; white sands are more common close to drainage ways
GEOLOGY:	Late Proterozoic - Cambrian sediments of the Georgina Basin, and Mesozoic sediments of the Eromanga Basin, overlain by Cainozoic sediments
ELEVATION:	0 - 300
RELIEF:	Low - moderate
MINOR LANDFORMS:	Areas devoid of aeolian sand - low rises and claypans
BOUNDARIES:	Area of aeolian sand with few claypans
REFERENCES:	Purdie (1984), Twidale (1972), Whitehouse (1963), Bowler (1976)
TOPOGRAPHIC MAPS:	Relief map of Australia 1:5m
GEOLOGICAL MAPS:	Mount Whelan, Bedourie, Birdsville, Pandie Pandie 1:250 000; Northwest Eromanga Basin 1:1 m; Cainozoic of the NT, Australia 1:2.5 m
OTHER SOURCES:	Atlas of Australian Soils; Australia Relief and Landforms 1:5 m; Cainozoic Cover and Weathering 1:10 m
COMMENTS:	
COMPILER:	DLG, GWD'A, GT, Dec 1985

NAME: SPRINGVALE
NUMBER: 113
STYLE: Erosional
BASIC FORM: Mesas
SOILS: Plastic clays (Uf6), brown self-mulching clays (Ug5.3)
SOILS ASSOCIATION: Ib1, Ii8, MM units
DESCRIPTION: Low dissected mesas
REGOLITH: Tertiary Springvale Formation is silicified and iron-stained in part
GEOLOGY: Cretaceous sediments of the Eromanga Basin, overlain by Cainozoic units
ELEVATION: 110 - 130
RELIEF: Low - moderate
MINOR LANDFORMS:
BOUNDARIES: Limit of distribution of Springvale Formation
REFERENCES: Paten (1964), Day & others (1983), Lloyd (1968)
TOPOGRAPHIC MAPS:
GEOLOGICAL MAPS: Springvale, Brighton Downs 1:250 000; Northern Eromanga Basin 1:1m
OTHER SOURCES: Atlas of Australian Soils
COMMENTS:
COMPILER: DLG, Nov 1985

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NAME: GYMPIE
NUMBER: 114
STYLE: Erosional
BASIC FORM: Undulating
SOILS: Duplex soils (Dy3.41, Dy2.42), red friable earths (Gn3.11)
SOILS ASSOCIATION: Tb units, Sk units, Mp13
DESCRIPTION: Undulating country
REGOLITH: Minor only (alluvium, colluvium, soils etc)
GEOLOGY: Palaeozoic sediments and volcanics of the Yarrol Basin, intruded by Permian to Mesozoic granites
ELEVATION: 0 - 300, rare peaks to 600
RELIEF: Low - high
MINOR LANDFORMS: Steep hills, coastal flats
BOUNDARIES: Higher Boomer unit to the west, depositional Rockhampton unit to the north and east.
REFERENCES:
TOPOGRAPHIC MAPS: Rockhampton, Brisbane 1:1m
GEOLOGICAL MAPS: Rockhampton 1:250 000; Fitzroy Region 1:1m
OTHER SOURCES: Atlas of Australian Soils, landsat imagery, CSIRO Land Research Series No 39
COMMENTS:
COMPILER: DLG, Nov 1985

NAME:	MUNCOONIE
NUMBER:	115
STYLE:	Depositional
BASIC FORM:	Alluvial and aeolian plain
SOILS:	Grey self-mulching clays (Ug5.2), siliceous sands (Uc1.2)
SOILS ASSOCIATION:	CC103,101,100
DESCRIPTION:	Flood plain with areas of longitudinal sand dunes
REGOLITH:	Fine alluvial and lacustrine deposits, with aeolian sand. Some areas of Tertiary sediment - sandstone of the Marion Formation is silicified, ferruginised and leached, and there is some un-named limestone and chalcedony. Minor areas of ferruginous duricrust and ironstone gravel overlying leached and ferruginised bedrock
GEOLOGY:	Cretaceous sediments of the Eromanga Basin, overlain by Cainozoic units
ELEVATION:	50 - 80
RELIEF:	Low - moderate
MINOR LANDFORMS:	
BOUNDARIES:	From soils and geology data
REFERENCES:	Day & others (1983), Reynolds (1968)
TOPOGRAPHIC MAPS:	
GEOLOGICAL MAPS:	Bedourie, Birdsville 1:250 000; Northwestern Eromanga Basin 1:1m
OTHER SOURCES:	Atlas of Australian Soils
COMMENTS:	The silicified Tertiary limestone contains carnotite (uranium bearing mineral)
COMPILER:	DLG, NOV 1985

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NAME:	HADDON
NUMBER:	116
STYLE:	Erosional
BASIC FORM:	Undulating plain
SOILS:	Duplex soils (Dr1.3)
SOILS ASSOCIATION:	Nb14,15,16, Nd5,6
DESCRIPTION:	Plateaux, plains, pediments and stony downs covered by gravel of silicified sandstone, with some isolated aeolian seif dunes. Includes Sturt's Stony Desert
REGOLITH:	Complex area, showing the following features: deeply weathered Cretaceous rocks, overlain by Tertiary fluvial sandstone (Glendower and Eyre Formations) with silcrete capping and layers, overlain by late Tertiery pisolitic sandstone (pisoliths ferruginous, and possibly formed at the time of deposition), and chalcedonic or cherty limestone. Some aeolian sand
GEOLOGY:	Cretaceous sediments of the Eromanga Basin, overlain by Cainozoic sediments
ELEVATION:	50? - 200
RELIEF:	Low - moderate
MINOR LANDFORMS:	
BOUNDARIES:	Erosional area with few aeolian dunes
REFERENCES:	Senior & others (1977), Senior & Mabbutt (1979), Senior (1979), Idnurm & Senior (1978), Wopfner (1974), Wopfner & others (1974), Senior (1977)
TOPOGRAPHIC MAPS:	
GEOLOGICAL MAPS:	Birdsville, Beetoota, Cordillo 1:250 000; Northwest Eromanga Basin 1:1m
OTHER SOURCES:	Atlas of Australian Soils
COMMENTS:	
COMPILER:	DLG, Nov 1985

NAME: DIAMANTINA
NUMBER: 117
STYLE: Depositional
BASIC FORM: Floodplain
SOILS: Brown self-mulching clays (Ug5.3), siliceous sands (Uc1.2)
SOILS ASSOCIATION: MM units, B45
DESCRIPTION: Floodplain of the Diamantina River, with areas of reworked sand as northwest trending aeolian seif dunes
REGOLITH: Alluvium, reworked in places into aeolian dunes
GEOLOGY: Mesozoic sediments of the Eromanga Basin, overlain by Cainozoic units
ELEVATION: 0 - ?150
RELIEF: Low - very low
MINOR LANDFORMS:
BOUNDARIES: Limit of floodplain
REFERENCES:
TOPOGRAPHIC MAPS:
GEOLOGICAL MAPS: Northern, Northwestern Eromanga Basin 1:1m
OTHER SOURCES: Atlas of Australian Soils
COMMENTS:
COMPILER: DLG, Nov 1985

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NAME: FARRARS
NUMBER: 118
STYLE: Depositional
BASIC FORM: Floodplain
SOILS: Grey self-mulching clays (Ug5.2)
SOILS ASSOCIATION: CC94
DESCRIPTION: Floodplain of Farrars Creek
REGOLITH: Alluvium, overlying weathered sediments (Tertiary Whitula Formation and Cretaceous Winton Formation)
GEOLOGY: Cretaceous sediments of the Eromanga Basin, overlain by Cainozoic units
ELEVATION: 100 - 130
RELIEF: Low
MINOR LANDFORMS:
BOUNDARIES: Limit of alluvium of Farrars Creek
REFERENCES: Senior & others (1978), Gregory & others (1967), Mabbutt (1967)
TOPOGRAPHIC MAPS:
GEOLOGICAL MAPS: Central Eromanga Basin 1:1m
OTHER SOURCES: Atlas of Australian Soils, CZCS imagery
COMMENTS:
COMPILER: DLG, Nov 1985

NAME: CUDDAPAN
NUMBER: 119
SOILS: Red earths (Gn2.12)
SOILS ASSOCIATION: My143, 144
DESCRIPTION: Sandplain - varies from longitudinal dunefields, through reticulate dunes, to sandplain of aeolian reworked surficial sand
REGOLITH: Aeolian sand. Some inliers of Tertiary fluvial sediment with silcrete
GEOLOGY: Cretaceous sediments of the Eromanga Basin, overlain by Cainozoic sediments
ELEVATION: 110 - 190
RELIEF: Low
MINOR LANDFORMS: Low silcrete-capped hills, claypans (locally common)
BOUNDARIES: Area of aeolian sand
REFERENCES: Day & others (1983), Gregory & others (1967)
TOPOGRAPHIC MAPS:
GEOLOGICAL MAPS: Central Eromanga Basin 1:1m; Cantebury, Windorah 1:250 000
OTHER SOURCES: Atlas of Australian Soils
COMMENTS:
COMPILER: DLG, Nov 1985

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NAME: ADAVALE
NUMBER: 120
STYLE: Erosional
BASIC FORM: Undulating Plain
SOILS: Poorly developed loamy soils (Um5.51, Um1.4), red earths (Gn2.12)
SOILS ASSOCIATION: Fa45, 46; FZ46, 47, 49; My142
DESCRIPTION: Mantled plains, grading to ridges and breakaways
REGOLITH: Deeply weathered bedrock (Morney and Canaway Profiles), silcrete (Curalle Silcrete Profile), and ferruginous duricrust. Weathered Tertiary fluvial sediments (Eyre or Glendower Formations)
GEOLOGY: Cretaceous sediments of the Eromanga Basin, overlain by Cainozoic units
ELEVATION: 75 - ?430
RELIEF: Low - moderate
MINOR LANDFORMS:
BOUNDARIES: Erosional area of deeply weathered rocks. Distinguished from the Haddon and Mayneside units by the absence of duplex soils and the presence of red earths
REFERENCES: Senior & others (1977), Senior (1979), Senior & others (1968), Senior & Mabbut (1979), Idnurm & Senior (1978), Senior & others (1978), Connah (1966), Day & others (1983), Gunn & Galloway (1978)
TOPOGRAPHIC MAPS:
GEOLOGICAL MAPS: Central Eromanga Basin 1:1m
OTHER SOURCES: CZCS imagery, Atlas of Australian Soils, CSIRO Land Research Series No 34
COMMENTS: Precious opal occurs in the weathered profile
COMPILER: DLG, Nov 1985

NAME: COOPER
NUMBER: 121
STYLE: Depositional
BASIC FORM: Floodplain
SOILS: Grey cracking clays (Ug5.2, Ug5.5)
SOILS ASSOCIATION: CC units, 0011
DESCRIPTION: Floodplain of Cooper Creek, including Lake Yamma Yamma
REGOLITH: Clayey alluvium, agglutinated into sand-sized grains when transported. Overlies weathered Tertiary Whitula Formation (mildly silicified and ferruginised), and the Tertiary Glendower Formation which has a silcrete capping
GEOLOGY: Cretaceous sediments of the Eromanga Basin, overlain by Cainozoic sediments
ELEVATION: 60 - 150
RELIEF: Very low - low
MINOR LANDFORMS:
BOUNDARIES: Limit of alluvial plains
REFERENCES: Senior & others (1978), Day & others (1983), B. Rust (pers. comm.)
TOPOGRAPHIC MAPS:
GEOLOGICAL MAPS: Central Eromanga Basin 1:1m; Jundah, Windorah, Barrolka, Durham Downs 1:250 000
OTHER SOURCES: CZCS imagery, Atlas of Australian Soils
COMMENTS:
COMPILER: DLG, Nov 1985

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NAME: NULLA
NUMBER: 122
STYLE: Basalt
BASIC FORM: Plain
SOILS: Red friable earths (Gn3.12), red earths (Gn2.12), some areas of bare rock
SOILS ASSOCIATION: Mo31, My37, TB
DESCRIPTION: Undulating basalt plains, dissected in part, sloping to the east from volcanoes near the western margin
REGOLITH: Inliers of Pliocene Allingham Formation (fluvial and lacustrine sediments, including detrital laterite), resting on lateritised Palaeozoic volcanics
GEOLOGY: Cainozoic basalt, some inliers of Cainozoic sediments and Palaeozoic rocks
ELEVATION: 300 - 800
RELIEF: Low? - moderate
MINOR LANDFORMS:
BOUNDARIES: Edge of basalt
REFERENCES: Perry & others (1964), Twidale (1956c, 1964, 1966b), Wyatt (1968), Stephenson & Griffin (1976), Archer & Wade (1976), Stephenson & others (1970)
TOPOGRAPHIC MAPS:
GEOLOGICAL MAPS: Clarke River, Townsville 1:250 000
OTHER SOURCES: Atlas of Australian Soils, CSIRO Land Research Series Nos 11, 16
COMMENTS:
COMPILER: DLG, Nov 1978

NAME: HUMBOLDT
NUMBER: 123
STYLE: Erosional
BASIC FORM: Plains
SOILS: Self-mulching clays (Ug5), duplex soils (Dr2.33, Dy3.42)
SOILS ASSOCIATION: CC, MM units, My21, Oc24, Ub67
DESCRIPTION: Soil-covered plains
REGOLITH: Tertiary fluvial and lacustrine sediment (lateritised, most outcrops are of the mottled zone, at least in the southeast of the area) over all the area. Overlain by areas of residual sand and alluvium
GEOLOGY: Tertiary basalt, interbedded with sediments, overlying Permian sediments of the Bowen Basin
ELEVATION: 120? - 210
RELIEF: Low
MINOR LANDFORMS: Coastal mudflats, dunefields
BOUNDARIES: Limit of Tertiary sediment
REFERENCES: Olgers (1966), Day & others (1983)
TOPOGRAPHIC MAPS:
GEOLOGICAL MAPS: Emerald, Duaringa, Baralaba 1:250 000
OTHER SOURCES: CSIRO Land Research Series No 39
COMMENTS:
COMPILER: DLG, Nov 1985

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NAME: WOORABINDA
NUMBER: 124
STYLE: Erosional
BASIC FORM: Plain
SOILS: Duplex soils (Dy5.41, Dy3.42), red earths
SOILS ASSOCIATION: Wa16, Ub68, My22, Mz6
DESCRIPTION: Sloping plain
REGOLITH: Lateritised Tertiary sediments over all of the area; most outcrops of Tertiary rocks are in the mottled zone
GEOLOGY: Triassic sediments, overlain by Cainozoic units
ELEVATION: 100 - ?250
RELIEF: Low
MINOR LANDFORMS:
BOUNDARIES: Rugged Carnarvon unit to the west, north and east, Zamia unit to the south has only minor Tertiary sediment
REFERENCES: Olgers (1966), Day & others (1983)
TOPOGRAPHIC MAPS:
GEOLOGICAL MAPS: Baralaba 1:250 000
OTHER SOURCES: CZCS imagery, Atlas of Australian Soils, CSIRO Land Research Series No 39
COMMENTS:
COMPILER: DLG, Nov 1985

NAME:	ZAMIA
NUMBER:	125
STYLE:	Erosional
BASIC FORM:	Low hills
SOILS:	Grey self-mulching clays (Ug5.2), Duplex soils (Db1.33)
SOILS ASSOCIATION:	CB4, CC22, Rf3,5
DESCRIPTION:	Undulating country with low hills
REGOLITH:	Residual sand over one third of the area; minor lateritised Tertiary sediment (most outcrops are in the mottled zone)
GEOLOGY:	Triassic sediments, Tertiary basalt
ELEVATION:	100 - 430
RELIEF:	Low - moderate
MINOR LANDFORMS:	
BOUNDARIES:	Rugged Carnarvon unit to east, south and west. Tertiary sediments of the Woorabinda unit to the north
REFERENCES:	Olgers (1966), Day & others (1983)
TOPOGRAPHIC MAPS:	
GEOLOGICAL MAPS:	Baralaba 1:250 000
OTHER SOURCES:	CZCS imagery, Atlas of Australian Soils, CSIRO Land Research Series No 39
COMMENTS:	
COMPILER:	DLG, Nov 1985

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NAME:	MARYBOROUGH
NUMBER:	126
STYLE:	Erosional
BASIC FORM:	Undulating area
SOILS:	Yellow leached earths (Gn2.3,2.7), grey leached earths (Gn2.9), leached sands (Uc2.2), duplex soils (Dy3.41)
SOILS ASSOCIATION:	Mb12, MT1,2, Ca9, Tb units
DESCRIPTION:	Undulating coastal area
REGOLITH:	Lateritised Tertiary Elliott Formation (mottled in part, with ferruginous duricrust capping in places, and some silicification). Overlain by non-lateritised lake and coastal sediments
GEOLOGY:	Cretaceous coal measures of the Maryborough Basin
ELEVATION:	0 - 60
RELIEF:	Low - moderate
MINOR LANDFORMS:	Coastal flats and dunes
BOUNDARIES:	Limit of area of Tertiary sediment
GEOLOGICAL MAPS:	Maryborough, Bundaberg 1:250 000
OTHER SOURCES:	
COMMENTS:	
COMPILER:	DLG, Nov 1985

NAME: THEODORE
NUMBER: 127
STYLE: Erosional
BASIC FORM: Undulating country
SOILS: Self-mulching clays (Ug5), duplex soils (Dr2.12)
SOILS ASSOCIATION: MM, CC, and Kb units, Qa6,7
DESCRIPTION: Undulating country with low ranges
REGOLITH: Minor residual sand and Tertiary sediment
GEOLOGY: Permian volcanics and sediments
ELEVATION: 150? - 300?
RELIEF: Low - moderate
MINOR LANDFORMS:
BOUNDARIES: Areas of Tertiary sediment to the east and west, less rugged than the Boomer, Mundubbera and Carnarvon units to the north, southeast and southwest
REFERENCES:
TOPOGRAPHIC MAPS:
GEOLOGICAL MAPS: Monto, Mundubbera 1:250 000
OTHER SOURCES: CZCS imagery
COMMENTS:
COMPILER: DLG, Nov 1985

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NAME: BILOELA
NUMBER: 128
STYLE: Erosional
BASIC FORM: Valleyplain
SOILS: Self-mulching clays (Ug5), duplex soils (Dd1.33)
SOILS ASSOCIATION: Kf5, CC22,23, HG4
DESCRIPTION: Broad valley plains with low mesas
REGOLITH: Alluvium along rivers; weathered Tertiary Biloela Formation (fine sediments mainly) is capped with ferruginous and siliceous duricrust on low mesas
GEOLOGY: Palaeozoic sediments of the Bowen and Yarrol Basins, capped by thick Cainozoic units
ELEVATION: 80 - 200
RELIEF: Moderate - low
MINOR LANDFORMS:
BOUNDARIES: Edge of area of Tertiary sediments
REFERENCES: Noon (1982b), Noon & Grimes (1982), Dear & others (1971)
TOPOGRAPHIC MAPS:
GEOLOGICAL MAPS: Rockhampton, Monto 1:250 000; Fitzroy Region 1:1m
OTHER SOURCES: Atlas of Australian Soils, CSIRO Land Research Series No 39
COMMENTS:
COMPILER: DLG, Nov 1985

NAME: WEEMARIE
NUMBER: 129
STYLE: Erosional/depositional
BASIC FORM: Plain
SOILS: Duplex soils (Dr1.33)
SOILS ASSOCIATION: Nb16,18
DESCRIPTION: Gibber-covered plain, with longitudinal sand dunes and claypans
REGOLITH: Gravel and pebbles of silcrete derived from duricrust, aeolian sand, alluvium. Tertiary limestone, partly altered to chalcedony in places. Minor areas of leached and ferruginised Tertiary sandstone (Marion Formation)
GEOLOGY: Cretaceous sediments of the Eromanga Basin, overlain by Cainozoic units
ELEVATION: 50 - 80
RELIEF: Low - moderate
MINOR LANDFORMS:
BOUNDARIES: From geology and soils data
REFERENCES: Day & others (1983), Olgers (1964)
TOPOGRAPHIC MAPS:
GEOLOGICAL MAPS: Bedourie, Birdsville 1:250 000; Northwestern Eromanga Basin 1:1m
OTHER SOURCES: Atlas of Australian Soils
COMMENTS:
COMPILER: DLG, Nov 1985

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NAME: FRASER
NUMBER: 130
STYLE: Depositional
BASIC FORM: Sand dunes
SOILS: Siliceous sands (Uc1.21, Uc2.21)
SOILS ASSOCIATION: B18, Ca10, Cb31
DESCRIPTION: Undulating to hilly sand dune country, either as islands or coastal strip
REGOLITH: Aeolian sand
GEOLOGY: Mesozoic sediments of the Maryborough Basin, overlain by Cainozoic sediments
ELEVATION: 0 - 250
RELIEF: Moderate
MINOR LANDFORMS: Interdune lakes
BOUNDARIES: Area of dune sand
REFERENCES:
TOPOGRAPHIC MAPS: Brisbane 1:1m
GEOLOGICAL MAPS: Queensland 1:2.5m
OTHER SOURCES: CZCS imagery, Atlas of Australian Soils
COMMENTS:
COMPILER: GT, DLG, Nov 1985

NAME: LANGLO
NUMBER: 131
STYLE: Depositional
BASIC FORM: Sandplain
SOILS: Red earth (Gn2.12)
SOILS ASSOCIATION: My1,3,4
DESCRIPTION: Sandplain, with residual sand partly reworked by alluvial and aeolian action, with a well developed alluvial system in the north
REGOLITH: Residual sand, partly reworked to alluvial and aeolian sand. Overlies deeply weathered Cretaceous sediments, and deeply weathered Tertiary sandstone with silcrete cap. Fine alluvium along watercourses
GEOLOGY: Cretaceous sediments of the Eromanga Basin, overlain by Cainozoic units
ELEVATION: 220 - 360
RELIEF: Low
MINOR LANDFORMS:
BOUNDARIES: Limit of sandplain
REFERENCES: Mabbutt (1969), Galloway (1970a,b), B. Senior (1971), D. Senior (1971)
TOPOGRAPHIC MAPS:
GEOLOGICAL MAPS: Charleville, Adavale, Augathella, Quilpie 1:250 000; Central Eromanga Basin 1:1m
OTHER SOURCES:
COMMENTS:
COMPILER: DLG, Nov 1985

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NAME: AUGATHELLA
NUMBER: 132
STYLE: Depositional
BASIC FORM: Outwash sandplain
SOILS: Red earths (Gn2.12)
SOILS ASSOCIATION: My5
DESCRIPTION: Outwash (colluvial, fluvial, and ?aeolian) sandplain from sandstone hills to the east, deposited over an area of stripped duricrust
REGOLITH: Fluvial, colluvial, and possibly aeolian sand, possibly overling deeply weathered bedrock
GEOLOGY: Mesozoic sediments of the Eromanga Basin, overlain by Cainozoic units
ELEVATION: 360 - 500
RELIEF: Low - very low
MINOR LANDFORMS: Aeolian sand dunes
BOUNDARIES: Limit of sandplain
REFERENCES: Galloway (1970b)
TOPOGRAPHIC MAPS:
GEOLOGICAL MAPS: Central Eromanga Basin 1:1m; Augathella 1:250 000
OTHER SOURCES:
COMMENTS:
COMPILER: DLG, Nov 1985

NAME: CARNARVON
NUMBER: 133
STYLE: Erosional
BASIC FORM: Range
SOILS: Sands (Uc1.2), duplex soils (Dy5.41, Db1.13), loams (Um1.4), red earths (Gn2.1), self mulching clays (Ug5)
SOILS ASSOCIATION: Bz1,5; Wa15; Rf units; Fz7; My, Mz, Kb, Mm units
DESCRIPTION: Ranges and tablelands
REGOLITH: Minor Tertiary sediment with ferruginous duricrust
GEOLOGY: Mesozoic sediments of the Surat and Eromanga Basins, and Permian sediments of the Bowen Basin
ELEVATION: 200? - 1000
RELIEF: Moderate - very high
MINOR LANDFORMS:
BOUNDARIES: From geology and imagery
REFERENCES:
TOPOGRAPHIC MAPS:
GEOLOGICAL MAPS: Central Eromanga Basin 1:1m, Northern Surat Basin 1:1m
OTHER SOURCES: CZCS imagery, landsat imagery, CSIRO Land Research Series No 39
COMMENTS:
COMPILER: DLG, Nov 1985

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NAME: TAROOM
NUMBER: 134
STYLE: Erosional
BASIC FORM: Hills
SOILS: Duplex soils (Dy2.33, Db1.33, Db2.33), Loams (Um1.4), grey self mulching clays (Ug5.2)
SOILS ASSOCIATION: Fz3, S13, CB3, Ro4, Rq1
DESCRIPTION: Hills in west, grading to undulating country in the east
REGOLITH: Minor areas of silcrete rubble
GEOLOGY: Jurassic sediments of the Surat Basin
ELEVATION: 180 - 700
RELIEF: Moderate
MINOR LANDFORMS:
BOUNDARIES: Less rugged than the Carnarvon unit to the north, and does not have the deeply weathered rocks of the Adavale unit to the south
REFERENCES: Day & others (1983), Exon (1968)
TOPOGRAPHIC MAPS:
GEOLOGICAL MAPS: Northern Surat Basin 1:1m
OTHER SOURCES:
COMMENTS:
COMPILER: DLG, Nov 1985

NAME: CONSUELO
NUMBER: 135
STYLE: Erosional
BASIC FORM: Ranges
SOILS: Loams (Um1.4)
SOILS ASSOCIATION: Fz8
DESCRIPTION: Deeply dissected high ranges or tableland
REGOLITH: Minor only (alluvium, colluvium, soils etc)
GEOLOGY: Tertiary basalt
ELEVATION: 500 - 1200
RELIEF: Very high
MINOR LANDFORMS:
BOUNDARIES: Area of basalt
REFERENCES: Mollan (1967)
TOPOGRAPHIC MAPS:
GEOLOGICAL MAPS: Springsure 1:250 000
OTHER SOURCES: Atlas of Australian Soils, CZCS imagery, CSIRO Land Research Series No 39
COMMENTS:
COMPILER: DLG, Nov 1985

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NAME: AUBURN
NUMBER: 136
STYLE: Erosional
BASIC FORM: Plateau
SOILS: Duplex soils (Dy3.41)
SOILS ASSOCIATION: Tb110, 111
DESCRIPTION: Sand-covered plateau
REGOLITH: Silcrete (Day & others, 1983; Whitaker & others, 1974), with some ferricrete; developed in up to 15 m of unbedded Cainozoic sediment, overlying a deep weathering zone in granite
GEOLOGY: Palaeozoic granite overlain by Cainozoic sediment
ELEVATION: 300 - 450
RELIEF: Low
MINOR LANDFORMS: Aeolian sand dunes
BOUNDARIES: Limit of continuous area of duricrust
REFERENCES: Whitaker & others (1974), Day & others (1983)
TOPOGRAPHIC MAPS:
GEOLOGICAL MAPS: Mundubbera 1:250 000
OTHER SOURCES:
COMMENTS:
COMPILER: DLG, Nov 1985

NAME:	INDOOROOPILLY
NUMBER:	137
STYLE:	Depositional
BASIC FORM:	Plains
SOILS:	Brown calcareous earths (Gc 1.22); Siliceous sand; loamy soils with weak pedologic development (Um 5.11).
SOILS ASSOCIATION:	DD29; B62; BB33
DESCRIPTION:	Plains broken by hills and ridges; some dune tracts; saline flats; clay pans; seasonal swamps and lakes. Lakes fringed on the eastern margins by lunettes.
REGOLITH:	Sand mantle with minimal soil development, dune sands, outcrops of bare rock; clay silt and sand in alluvial and seasonal swampy lowlands. Evaporite deposits of gypsum and halite; some kopi dunes. Silcrete and ferricrete development. Deeply weathered Palaeozoic basement with exposed pallid zones and mottled zones
GEOLOGY:	Lower Proterozoic metamorphics. Carpentarian conglomerates, dolomitic shales, quartzites and granite, volcanics and pyroclastics in Gawler Block. Adelaidean sandstone, quartzite, dolomite, acid and basic lavas. Cretaceous sandstone, siltstone, shale, limestone. Cainozoic aeolian and residual quartz sand; terrestrial limestone, minor sand and clay. Ferruginous aluminous and siliceous duricrusts. Quaternary gypsum halite and clay. Gold produced at Tarcoola (1908)
ELEVATION:	106-224 m
RELIEF:	5-40 m
MINOR LANDFORMS:	Numerous lakes, clay pans and channelways; isolated hills; some dunes (linear) and lunette formation; swamps
BOUNDARIES:	Approximates the outline of a drainage basin between dunefields and Stuart Ranges. Some influence from CZCS imagery patterns and soil map units
REFERENCES:	Parkin (1969)
TOPOGRAPHIC MAPS:	Tarcoola 1:1 m
GEOLOGICAL MAPS:	Australia 1:2.5 m
OTHER SOURCES:	CZCS imagery, Atlas of Australian Soils
COMMENTS:	
COMPILER:	MC, GT, Jan 1986

NAME:	LAKE LABYRINTH
NUMBER:	138
STYLE:	Depositional
BASIC FORM:	Undulating terrain
SOILS:	Brown calcareous earths (Gc 1.12, 1.22)
SOILS ASSOCIATION:	DD1; DD28
DESCRIPTION:	Undulating terrain with mesas and buttes, some saline seasonally swampy areas with gypseous lunettes. Dune formations in east
REGOLITH:	Variable stone and gravel mantle. Some low silcrete capped hills. Evaporite deposits (gypsum, halite). Sand, silt, clay deposits in lowlands
GEOLOGY:	Lower Proteozoic metamorphics. Carpentarian conglomerates, dolomitic shales, quartzites and granite, volcanics and pyroclastics in Gawler Block. Adelaidean sandstone, quartzite, dolomite, acid and basic lavas. Cretaceous sandstone, shale, limestone. Cainozoic aeolian and residual quartz sand, terrestrial limestone, minor sand and clay. Ferruginous, aluminous and siliceous duricrusts. Quaternary gypsum, halite and clay
ELEVATION:	115-321 m
RELIEF:	6-30 m
MINOR LANDFORMS:	Dunes; lunettes; kopi dunes; lowlands swamps (seasonal), playas, claypans
BOUNDARIES:	defines an area of numerous lakes and chains of lakes with dunes: physiographic unit with some influence from CZCS imagery patterns, soil map units and Environments of SA map
REFERENCES:	Laut & others (1977), [7.4.1, 4.2, 4.3, 4.4]
TOPOGRAPHIC MAPS:	Tarcoola 1:1 m
GEOLOGICAL MAPS:	Australia 1:2.5 m
OTHER SOURCES:	CZCS imagery, Atlas of Australian Soils
COMMENTS:	
COMPILER:	MC, GT Jan 1986

NAME:	OAKDEN
NUMBER:	139
STYLE:	Depositional
BASIC FORM:	Plains
SOILS:	Brown calcareous earths (Gc 1.12); crusty loamy soils with red clayey subsoil (Dr 1.33); Sand soils, brown and red (Uc 5.11, 5.12, 5.13); Shallow dense loams (Um 5.4)
SOILS ASSOCIATION:	DD1; Nb42; AA2; F3
DESCRIPTION:	Undulating plains overlain with sand sheets and dunes, with occasional silcrete capped rises
REGOLITH:	Alluvium, colluvium (sand silt clay and gravels). Silcrete cappings and Ti-rich skins. Dune sand and residual sand mantles. Evaporites (gypsum and halite). Bleached Cretaceous shales. Silicified rhizomorphs and nodular silcrete (Tertiary)
GEOLOGY:	Adelaidean sandstone, siltstone, quartzite, dolomite, acid and basic volcanics, some limestone. Cainozoic aeolian and residual quartz sand; terrestrial limestone, minor sand and clay. Quaternary gypsum, halite, sand and clay
ELEVATION:	200-280 m
RELIEF:	6-30 m
MINOR LANDFORMS:	Numerous salt lakes; linear dune tracts
BOUNDARIES:	Closely associated with soil map units, some influence from physiography and CZCS imagery
REFERENCES:	Laut & others (1977), Milnes and Hutton (1974); Milnes and Twidale (1983)
TOPOGRAPHIC MAPS:	Tarcoola, Port Augusta 1:1 m
GEOLOGICAL MAPS:	Australia 1:2 500 000
OTHER SOURCES:	CZCS imagery, Atlas of Australian Soils
COMMENTS:	
COMPILER:	MC, GT, Jan 1986

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NAME:	MATTAWEARA
NUMBER:	140
STYLE:	Depositional
BASIC FORM:	Dune formations
SOILS:	Brown calcareous earths (Gc 1.12); crusty loamy soils with red clayey subsoils (Dr 1.33)
SOILS ASSOCIATION:	Dd1; Nb35,41
DESCRIPTION:	Dune formations with relatively small plains between an undulating plain. Occassional low silcrete capped rises
REGOLITH:	Silcrete cappings; opal in minor and major commercial grades; desert armour; gilgai and stone circles; deep weathering profiles with exposed mottled and pallid zones; gypsum and gypsum-impregnated sediments; evaporites (halite and gypsum)
GEOLOGY:	Adelaidean sandstone, siltstone, shale, limestone. Cambrian siltstone, sandstone, conglomerate, shale, limestone. Cretaceous sandstone, siltstone, shale, limestone. Cainozoic aeolian and residual quartz sand, ferruginous, aluminous and siliceous duricrusts
ELEVATION:	150 m
RELIEF:	<6 m
MINOR LANDFORMS:	mesas, buttes; dunes; playas, claypans,
BOUNDARIES:	
REFERENCES:	Laut & others (1977) [7.4.6], Barnes and Townsend (1982)
TOPOGRAPHIC MAPS:	Tarcoola 1:1 m
GEOLOGICAL MAPS:	Australia 1:2.5 m
OTHER SOURCES:	CZCS imagery, Atlas of Australian Soils
COMMENTS:	
COMPILER:	MC, GT, Jan 1986

NAME:	GLUEPOT
NUMBER:	141
STYLE:	Depositional
BASIC FORM:	Plains
SOILS:	Brown calcareous earths (Gc 1.12). Highly calcareous loamy earths Gc 1.12. Cracking clays, yellow grey (Ug 5.2). Hard setting loamy soils with red clayey subsoils (Dr 2.23)
SOILS ASSOCIATION:	DD2,3,1; Lb1,4,11; 014;
DESCRIPTION:	Plains with variable dune cover, from dune formations with relatively small plains between to plains with isolated tracts of dunes. Claypans, saline soils, swamps, and intermittent lakes in low-lying areas
REGOLITH:	Exposed caliche and crusty loamy soils; colluvial sand, silt, clay and gravel along footslopes of Olay Spur. Evaporite deposits; gypsum and halite
GEOLOGY:	Minor Precambrian basement, minor Palaeozoic outcrops. Tertiary marine sandstone, siltstone, mudstone; some fluvial sandstone, conglomerate. Cainozoic aeolian and residual quartz sand, minor alluvial, colluvial and lacustrine sand, silt, clay and conglomerate. Terrestrial limestone, minor sand and clay
ELEVATION:	81-200 m
RELIEF:	<5-70 m
MINOR LANDFORMS:	Numerous very low sand ridges; lakes; seasonal swamplands, claypans, minor levees, floodplain landforms
BOUNDARIES:	North Mount Lofty, Murray River, Darling Anabranch; footslopes of the Olary Ranges. Physiographic criteria with some influence from CZCS imagery patterns and soil map units
REFERENCES:	Parkin (1969), Packham (1969)
TOPOGRAPHIC MAPS:	Adelaide 1:1 m
GEOLOGICAL MAPS:	Australia 1:2.5 m
OTHER SOURCES:	CZCS imagery, Atlas of Australian Soils
COMMENTS:	
COMPILER:	MC, GT, Jan 1986

NAME:	WIRREALPA
NUMBER:	142
STYLE:	Erosional
BASIC FORM:	Piedmont Plain
SOILS:	Hard pedal, red duplex soils (Dr 2.23). Loamy soils with weak pedologic development (Um 5.11)
SOILS ASSOCIATION:	DD4, BB3,32
DESCRIPTION:	Coalescing, low angle fans with broad floodplains, incised in ranges. A piedmont plain
REGOLITH:	Surface gravel, sand cover; alluvial deposits on floodplains; colluvial sand, silt, clay and gravel; claypans; evaporites (halite and gypsum)
GEOLOGY:	Adelaidean sandstone, siltstone, shale, limestone, tillite. Cambrian sandstone, siltstone, shale, conglomerate, limestone. Cainozoic alluvial, colluvial and lacustrine sand, silt clay and gravel
ELEVATION:	500 m
RELIEF:	<6 m
MINOR LANDFORMS:	Colluvial fans formed on footslopes of 'Great Wall of China' in North Flinders Range. Small isolated hills with saddlle connection only to main range. Channelways draining to Lake Frome; seasonal swampy lowlands some dry lakes
BOUNDARIES:	Determined in conjunction with physiographic and soil map unit boundaries
REFERENCES:	Laut & others (1977) [6.1.15], Parkin (1969)
TOPOGRAPHIC MAPS:	Broken Hill 1:1 m
GEOLOGICAL MAPS:	Australia 1:2.5 m
OTHER SOURCES:	Atlas of Australian Soils
COMMENTS:	
COMPILER:	MC, GT, Jan 1986

NAME:	WARWICK HILLS
NUMBER:	143
STYLE:	Erosional
BASIC FORM:	Dissected plateaus
SOILS:	Crusty, loamy soils with red clayey subsoil (Dr 1.33); Red earths (Gn 2.13); Various Brown cracking clays (Ug 5.3); Loamy soils of minimal development (Um 1.4)
SOILS ASSOCIATION:	Nb30,31; Mx1; MM73,71,72; Nb4; Fz1
DESCRIPTION:	Dissected plateaux with rocky scarps, mesas and buttes. Intervening and adjacent areas are rolling stony downs with narrow stream valleys. Larger tracts have valley plains with some clay pans and seasonal lakes
REGOLITH:	Commercial opal; deeply weathered Cretaceous sediments, silcrete and ironstone cappings on hills. Ferricrete, lateritic pebbles associated with Cretaceous sediments; laterite under silicrete all over Cretaceous sediments. 30 m of floodplain and outwash sediments in some areas, some dune sand. Nodular travertine
GEOLOGY:	Minor lower Proterozoic basement. Lower Devonian and Upper Carboniferous sandstone, siltstone, chert, shale, limestone, phyllite. Cretaceous sandstone, siltstone, shale, limestone. Cainozoic aeolian and residual quartz sand. Ferruginous, aluminous and siliceous duricrusts
ELEVATION:	180-222 m
RELIEF:	<5-40 m
MINOR LANDFORMS:	Plateaus; mesas; buttes; scarps; stony downs; clay pans and lakes; floodplain landforms; sand dunes
BOUNDARIES:	Soil map units and CZCS imagery patterns are dominant criteria
REFERENCES:	Packham (1969), Rose (1974)
TOPOGRAPHIC MAPS:	Broken Hill 1:1 m
GEOLOGICAL MAPS:	Australia 1:2.5 m
OTHER SOURCES:	CZCS imagery, Atlas of Australian Soils
COMMENTS:	
COMPILER:	MC, GT, Jan 1986

NAME:	WAVERLEY DOWNS
NUMBER:	144
STYLE:	Depositional
BASIC FORM:	Plain (flat to undulating)
SOILS:	Red earths (Gn 2.13, 2.12); loamy soils with weak pedologic development (Um 5.51); Crusty, loamy soils with red clayey subsoils (Dr 1.33)
SOILS ASSOCIATION:	Mx1; My1; Fa48; Nb29; Mx35
DESCRIPTION:	Flat to gently undulating plain, with sand cover and siliceous duricrusted mesas. Scree slopes to general pediment plain. Numerous depressions in interdune areas
REGOLITH:	Sand dunes and sand mantles; gibber plains (desert armour). Talus slopes, alluvial: sand, silt, clay - mostly clay and 'black soil'; intra and extra dunal clay deposits in claypans, eg. the very large Bulleo claypan. Silicified sediments, quartzite and porcellanite (Tertiary).
GEOLOGY:	Cretaceous sandstone, siltstone, shale, limestone. Tertiary fluvial sandstone, conglomerate. Cainozoic aeolian and residual quartz sand; alluvial, colluvial and lacustrine sand, silt, clay and gravel. Ferruginous, aluminous, siliceous duricrust.
ELEVATION:	180-220 m
RELIEF:	<5 - 40 m
MINOR LANDFORMS:	Linear dunes; lakes; playas; dry claypans; seasonal swamps; alluvial floodplain landforms
BOUNDARIES:	Mainly influenced by soil map units and CZCS imagery patterns
REFERENCES:	Brunker (1966), Packham (1969)
TOPOGRAPHIC MAPS:	Broken Hill, Bourke 1:1 m
GEOLOGICAL MAPS:	Australia 1:2.5 m
OTHER SOURCES:	CZCS imagery, Atlas of Australian Soils
COMMENTS:	
COMPILER:	MC, GT, Jan 1986

NAME:	BEGA
NUMBER:	145
STYLE:	Erosional
BASIC FORM:	Basin on granite
SOILS:	Brown friable earths, hard setting loamy soils with red clayey subsoil (Gn 3.21 & 22)
SOILS ASSOCIATION:	Me1, Pb5,
DESCRIPTION:	Gently undulating granite hills, broad shallow valleys. Alluvial flats of the Bega River
REGOLITH:	Tertiary gravels, sand, clays and lignites; some sandstone. Tertiary basalt weathering to produce expansive clay soils. Weathered granite producing grus mantles. Quaternary alluvium, sand, silt and clay
GEOLOGY:	Lower to Middle Devonian granite. Upper Devonian sediments of the Merrimbula Formation and Ordovician sediments and meta-sediments. Tertiary sand, silt and gravel with clays and lignite
ELEVATION:	50 to 300
RELIEF:	90 to 180
MINOR LANDFORMS:	Floodplains and some minor floodplain landforms
BOUNDARIES:	The Great Escarpment to the west; Wolumla Peak and associated range to the south; Black Range, Mumbula, Narira and Jeffers Mtns to the east. Primary influence for boundaries is soil map units and CZCS imagery
REFERENCES:	Packham (1969)
TOPOGRAPHIC MAPS:	Bega 1:100 000, Melbourne 1:1 m
GEOLOGICAL MAPS:	Bega 1:250 000, Aust 1:2.5 m
OTHER SOURCES:	CZCS imagery, Atlas of Australian Soils
COMMENTS:	
COMPILER:	GT, MC, Dec 1985

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NAME:	TODMARDEN
NUMBER:	146
STYLE:	Erosional
BASIC FORM:	Dissected tablelands and plains
SOILS:	Siliceous sand (Uc 1.2); Red earths (Gn 2.12); Cracking clays (Ug 5.24, 5.25)
SOILS ASSOCIATION:	B54,55; My117; CC112
DESCRIPTION:	Broad drainage basin of Alberga River and north and south Branch of Neales River. Pediment below dissected tablelands
REGOLITH:	Talus slopes and pediments; some dune sand and sandplain; desert armour; some commercial opal in Oodnadattta region. Alluvial sand, silt and clay; dreikanters; highly weathered kaolinised basement rocks. Tertiary duricrusts
GEOLOGY:	Cretaceous sandstone, siltstone, shale, limestone. Tertiary marine and some lacustrine limestone. Cainozoic aeolian and residual quartz sand, alluvialum, colluvial and lacustrine sand, silt, clay and gravel. Quaternary gypsum, halite, sand and clay
ELEVATION:	180-210 m
RELIEF:	30 m
MINOR LANDFORMS:	Cuesta ridges, mesas, buttes, dunes and low sand ridges, playas and claypans
BOUNDARIES:	Primarily physiographic with soil map units - outline of Talus slopes, pediment and plain
REFERENCES:	
TOPOGRAPHIC MAPS:	Oodnadatta 1:1 m
GEOLOGICAL MAPS:	Australia 1:2.5 m
OTHER SOURCES:	Atlas of Australian Soils
COMMENTS:	
COMPILER:	MC, GT, Jan 1986

NAME:	SOUTH COAST
NUMBER:	147
STYLE:	Erosional
BASIC FORM:	Coastal ranges; plains with estuaries
SOILS:	Brown friable earths, leached sand and numerous other minor soil varieties (Gn3.21 & 22; Uc2.2)
SOILS ASSOCIATION:	Me1; Fa3; Pb5, Tb18; Mj1; Ub27; and others
DESCRIPTION:	A coastal lowland strip east of the Great Escarpment. Beach barrier systems with numerous lakes. Extensive alluvial floodplains of major coastal rivers. Gently undulating hills with broad shallow valleys. Zone of steep slopes, sharp ridges and mountainous country with some \V\ shaped valleys towards the escarpment.
REGOLITH:	Silcrete in Milton area on flanks of E-W ridges and headlands; overlain, in most places, by basalt. Patchy Quaternary alluvium : sand silt and clay
GEOLOGY:	Ordovician meta-sediments south of Ulladulla; Permian Shoalhaven Group sandstone of the Sydney Basin north of Ulladulla.
ELEVATION:	0 to 1362
RELIEF:	6 to 365
MINOR LANDFORMS:	Barrier systems, lagoons, beaches, beach dunes, headlands and rock platforms
BOUNDARIES:	Pacific ocean to the east, Great Escarpment to the west.
REFERENCES:	Callender (1978), Young (1978)
TOPOGRAPHIC MAPS:	Bega 1:100 000, Melbourne & Sydney 1:1 m
GEOLOGICAL MAPS:	Bega 1:250 000, Ulladulla 1:250 000
OTHER SOURCES:	CZCS imagery, Atlas of Australian Soils, CSIRO Soils & Land Use Series: South Coast of N.S.W.
COMMENTS:	
COMPILER:	GT, MC, Dec 1985

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NAME:	MULOORINA
NUMBER:	148
STYLE:	Depositional
BASIC FORM:	Plain
SOILS:	Crusty, red duplex soils (Dr1.33). Red & Brown sands (Uc5.11). Cracking clays (Ug 5.24, 5.25)
SOILS ASSOCIATION:	Nb35,36; CC118
DESCRIPTION:	A gently undulating plain of alluvium and aeolian sand with occasional dunes
REGOLITH:	Alluvial sand silt and clay; sand mantles; dune sand; evaporites (halite, gypsum); clay, silt and some sand in claypans
GEOLOGY:	Cretaceous sandstone, siltstone, shale, limestone. Cainozoic aeolian and residual quartz sand; alluvial, colluvial and lacustrine sand, silt, clay and gravel. Minor Quaternary salt, gypsum, clay and sand
ELEVATION:	30 m
RELIEF:	<6 m
MINOR LANDFORMS:	Some linear dunes, playas, claypans
BOUNDARIES:	Outlines area principally without dunes. Soil map units are major influence together with parts of map units of Laut & others (1977)
REFERENCES:	Laut & others (1977) [8.3.12]
TOPOGRAPHIC MAPS:	Broken Hill and Tarcoola 1:1 m
GEOLOGICAL MAPS:	Australia 1:2.5 m
OTHER SOURCES:	Atlas of Australian Soils
COMMENTS:	
COMPILER:	MC, GT, Jan 1986

NAME:	BRINDINGABBA
NUMBER:	149
STYLE:	Depositional
BASIC FORM:	Floodplain
SOILS:	Red earths (Gn 2.12, 2.13); Crusty loamy soils with red clayey subsoil (Dr 1.33); Cracking clays (Ug 5.24, 5.25)
SOILS ASSOCIATION:	MY1; Mx1; Nb3,4; CC19
DESCRIPTION:	Depositional floodplain of the Paroo-Warrego River systems, with occasional low hills above 200 m elevation, numerous lakes and claypans with seasonal swampy lowland depressions and dry channels
REGOLITH:	Predominantly alluvial sand, silt, clay, clays in claypans, lacustrine clays and silts. Some dune sands and residual sand mantles. Colluvium in footslopes of low hills
GEOLOGY:	Cretaceous sandstone, siltstone, shale, limestone. Cainozoic aeolian and residual quartz sand, alluvial, colluvial and lacustrine sand, silt, clay and gravel. Ferruginous, siliceous and aluminous duricrusts
ELEVATION:	<180-200 m
RELIEF:	<5-20 m
MINOR LANDFORMS:	Playas and claypans, floodplain landforms, distributary channel systems of main rivers and trunk tributaries.
BOUNDARIES:	Soil map units and CZCS imagery patterns are dominant criteria
REFERENCES:	Packham (1969)
TOPOGRAPHIC MAPS:	Bourke 1:1 m
GEOLOGICAL MAPS:	Australia 1:2.5 m
OTHER SOURCES:	CZCS imagery, Atlas of Australian Soils
COMMENTS:	
COMPILER:	MC, GT, Jan 1986

NAME:	LIGHTNING RIDGE
NUMBER:	150
STYLE:	Erosional
BASIC FORM:	Plains and dissected tableland
SOILS:	Red earths (Gn 2.12). Hard setting loamy soils with brown clayey subsoils (Dd 1.33). Cracking clay (Ug 5.24, 5.25)
SOILS ASSOCIATION:	My2; R03; CC17,18
DESCRIPTION:	Ridges, flat-topped and mesa topography with inter-ridge areas of undulating to flat terrain with claypans end 'black soil' areas abutting main ridge. Frequently dry watercourse and claypans with some seasonal swampy internal drainage areas.
REGOLITH:	Commercial opal fields, opalised weathered Cretaceous claystone, siltstones and sandstones. Silicified conglomerates, quartzite and porcellanite of Tertiary age. Various combinations of Quaternary sand, silt and clays. Silcrete capped mesas and ridges with underlying unconsolidated Tertiary (?) sediments (gravels and conglomerates). Silcrete is patchy
GEOLOGY:	Cretaceous sandstone, siltstone, shale, limestone. Cainozoic aeolian and residual quartz sand. Tertiary fluvial sandstone, conglomerate. Cainozoic alluvial and lacustrine sand, silt, clay and gravel. Ferruginous, aluminous and siliceous duricrusts
ELEVATION:	150-190 m
RELIEF:	30 m
MINOR LANDFORMS:	Mesas, elongated ridge lines; intermittant lakes; claypans
BOUNDARIES:	CZCS imagery patterns and soil map units provide criteria
REFERENCES:	Langford-Smith (1978), Offenberg (1967)
TOPOGRAPHIC MAPS:	Bourke 1:1 m
GEOLOGICAL MAPS:	Australia 1:2.5 m
OTHER SOURCES:	CZCS imagery, Atlas of Australian Soils
COMMENTS:	
COMPILER:	MC, GT, Jan 1986

NAME:	GLASS HOUSE MOUNTAINS
NUMBER:	151
STYLE:	Erosional/Depositional
BASIC FORM:	Lowland with volcanic plugs
SOILS:	Yellow leached earths (Gn 2.3, 2.7). Yellow earths (Gn 2.24). Yellow friable earths (Gn 3.5, 3.7, 3.8). Leached sand soil (Uc 2.2). Red friable earths (Gn 3.11). Dark friable earths (Gn 3.42, 3.43). Grey friable earths (Gn 3.9 3.0). Leached loamy soils (Um 2.1)
SOILS ASSOCIATION:	Mb10; Mr6; Mf16,7; Ca12; MF4; Mp11; MM9; P11; Qd6; Mp10; Mp19; 10
DESCRIPTION:	Lowland on weak sedimentry rocks, with prominent volcanic plugs (Glass House Mountains)
REGOLITH:	Highly lateritized Lower Cainozoic in places. Basalt capping with sub-basaltic sediments; basalts not lateritised. Friable red sesqui-oxidic soils (sandy lateritic red earths); lateritic podsolic soils; some oceanic sands. Alluvial sand, silt and clay; colluvial sands and gravels. Commercial Cainozoic clay deposits
GEOLOGY:	Upper Devonianian-Lower Carboniferous sandstone, siltstone, shale, chert, limestone, phyllite, schist. Permian sandstone, siltstone, mudstone tillite limestone. Triassic sandstone, siltstone, mudstone, granite. Jurassic sandstone, siltstone, mudstone. Tertiary basalt
ELEVATION:	0-556 m
RELIEF:	20-400
MINOR LANDFORMS:	Como scarp; volcanic plugs; coastal lowland swamps; floodplain landforms and river terraces; ancient dune and barrier systems. Coastal lagoons and lakes
BOUNDARIES:	Based on physiographic criteria (coastal plain bordered by escarpment to west and coastal dune and swamp lands to east). Some influence from soil map units
REFERENCES:	Hill and Denmead (1960)
TOPOGRAPHIC MAPS:	Brisbane 1:1 m
GEOLOGICAL MAPS:	Australia 1:2.5 m
OTHER SOURCES:	Atlas of Australian Soils
COMMENTS:	
COMPILER:	MC, GT, Jan 1986

NAME:	EUCUMBENE
NUMBER:	152
STYLE:	Erosional
BASIC FORM:	Hills and plains
SOILS:	Lithosols (shallow loamy soils); Solodized solonetz and solodic soils (Um4.2, Dy 3.42)
SOILS ASSOCIATION:	LL1; Fa2; Ub27;
DESCRIPTION:	Multicyclic erosional landscape of hills and hillocky areas with intervening areas of dissected plains, the whole area is traversed and dissected by variously incised stream valleys
REGOLITH:	Alluvial gravels and sands in river valleys; isolated Tertiay basalt and related weathered products. Quaternary alluvium, gravel, sand, silt and clay deposits associated with valley floors and small terrace deposits
GEOLOGY:	Granite-granodiorite, granite porphyry; slate, shales, greywacke, sandstones, quartzites, siltstones, limestones, tuff and andesites of Lower Palaeozoic age
ELEVATION:	1000
RELIEF:	5 to 180
MINOR LANDFORMS:	Minor river valleys floor and floodplains, undulating plains
BOUNDARIES:	Primarily, the boundaries are physiographic; roughly the 1000m contour
REFERENCES:	Packham (1969) Costin (1954)
TOPOGRAPHIC MAPS:	Melbourne 1:1 m
GEOLOGICAL MAPS:	Bega 1:250 000
OTHER SOURCES:	CZCS imagery, Atlas of Australian Soils
COMMENTS:	
COMPILER:	MC, GT, Dec 1985

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NAME:	MONARO
NUMBER:	153
STYLE:	Volcanic
BASIC FORM:	Basalt filled palaeoplain
SOILS:	Red friable earths (Gn3.11, 12, 13)
SOILS ASSOCIATION:	Md3;
DESCRIPTION:	Broad basalt filled palaeoplain. Gently undulating surface cut by 60 - 100 m deep valleys in north, and south near Bombala.
REGOLITH:	Basalt overlying silcrete. Deep weathering of Silurian volcanics and Ordovician shales to form kaolinite weathering profile. Calcrete is abundant in present drainage valleys. Some ferricrete.
GEOLOGY:	Tertiary (Eocene to ealiest Oligocene) basalt overlying Silurian volcanics with associated sediments and Ordovician shales
ELEVATION:	1000
RELIEF:	100, 60 - 100 valley relief
MINOR LANDFORMS:	
BOUNDARIES:	Boundary determined by areal extent of the Monaro basalt.
REFERENCES:	Costin (1954), Taylor (1982), Wellman (1972), Smith & Taylor (1975), Browne (1964)
TOPOGRAPHIC MAPS:	Cooma 1:100 000, Bega 1:250 000, Melbourne 1:1 m
GEOLOGICAL MAPS:	Bega 1:250 000
OTHER SOURCES:	CZCS imagery, Atlas of Australian Soils
COMMENTS:	
COMPILER:	GT, 1985

NAME:	LOFTY
NUMBER:	154
STYLE:	Erosional
BASIC FORM:	Steep, hilly to mountainous terrain, deeply dissected.
SOILS:	Red friable earths; hard setting loamy soil with yellow clayey subsoil (Gn3.14, 2.14; Dr 2.21)
SOILS ASSOCIATION:	Mj17; Sj2;
DESCRIPTION:	Steep hilly to mountainous terrain, deeply dissected; some remnants of old gently undulating landscapes. Steep scarps, granite tors
REGOLITH:	Sandy soils on granite, expanding clay soils associated with weathering of Tertiary basalt. Kaolinised granite saprolite, and grus mantles
GEOLOGY:	Silurian, Permian sediments: Woolomin Group and Permian in the Drake district. Granites and granite porphyry. Minor remnants of Tertiary basalt
ELEVATION:	1500
RELIEF:	180 - 365
MINOR LANDFORMS:	Coastal river floodplains and minor floodplain landforms, coastal dunes, and swamplands, deep gorges and scarps, and dissected tableland remnants
BOUNDARIES:	The Clarence-Morton basin to the east; the Demon Block fault to the west. Lofty corresponds closely to structural units of the region and hence is physiographic in nature.
REFERENCES:	
TOPOGRAPHIC MAPS:	Armidale 1:1 m
GEOLOGICAL MAPS:	Aust 1:2.5 m
OTHER SOURCES:	CZCS imagery, Atlas of Australian Soils, Structural map of the New England Fold Belt - northern N.S.W.
COMMENTS:	
COMPILER:	MC, Dec 1985

NAME:	SNOWY
NUMBER:	155
STYLE:	Erosional
BASIC FORM:	Mountains
SOILS:	Alpine humus soils; Krasnozems, Red podzolics, Solodized solonetz and solodic soils (Um7.11, Gn4.31, Dr2.21, Um5.5, Dy3.41)
SOILS ASSOCIATION:	KK1, Mh5, Pb4, Tb1, Mk3, Mk4, VA10
DESCRIPTION:	Mountainous country with steep slopes, 'V' shaped valleys, narrow stream valleys with small floodplains. Small open flats and valley plains at highest elevations.
REGOLITH:	Deeply weathered granite, together with exposed granite masses. Acid duplex soils with red clay at depth, friable porous earths, old river terraces. Red and black plastic and cracking clay soils (derived from basalt). Gravel and pebble-rich soil derived from weathered Permian glacial deposits. Colluvial deposits on steeper slopes
GEOLOGY:	Palaeozoic sediments of Melbourne trough, Omeo trough and NE metamorphic complex. Quaternary alluvial fan deposits, alluvial sand, silt and gravels
ELEVATION:	2228
RELIEF:	300+
MINOR LANDFORMS:	Plateau remnants : Baw Baw, Dargo, Bogong etc. Dissected topography with soft layers giving rise to lower relief, dip-scarp slopes, hogbacks. Undulating to hilly terrain, with landslips on steeper slopes.
BOUNDARIES:	Boundaries equate with the position of the eastern side of the Divide (200m contour). North and north-east slopes of the Divide. Also defined with the aid of CZCS imagery patterns, and physiographic guidelines from topographic maps as well as soil map units
REFERENCES:	Douglas and Fergusson (1976), Craig (1984) Langford-Smith (1958
TOPOGRAPHIC MAPS:	Melbourne 1:1 m
GEOLOGICAL MAPS:	Bega, Tallangatta 1: 250 000
OTHER SOURCES:	CZCS imagery, Atlas of Australian Soils, Journal of the Soil Conservation Service, 15, 66-69
COMMENTS:	
COMPILER:	MC, GT, Dec 1985

NAME:	COOGEE LAKE
NUMBER:	156
STYLE:	Erosional
BASIC FORM:	Plains
SOILS:	Loamy soils with weak pedologic development (Um 5.41). Crusty, loamy soils with red clayey subsoil (Dr 1.32). Red earths (Gn 2.13). Various brown cracking clays (Ug 5.3)
SOILS ASSOCIATION:	F5; Nb33,34; Mx36,37; MM71
DESCRIPTION:	Plains with some pediments flanking strongly rolling hills and ridges
REGOLITH:	Stony pavements, shallow sand drifts, surface gravels
GEOLOGY:	Proterozoic (Adelaidean + Lower Proterozoic) basement: sandstone, siltstone, shale, some tillite, limestone. Cambro-Ordovician sandstone, siltstone, chert. Middle-Upper Palaeozoic clastic sediments. Cretaceous sandstone, siltstone, shale, limestone. Cainozoic aeolian and residual quartz sand; alluvial, colluvial and lacustrine sand, silt, clay and gravel
ELEVATION:	170-347 m
RELIEF:	20-150 m
MINOR LANDFORMS:	Lakes, claypans linear dunes; outwash alluvial fans dry broad alluvial channels
BOUNDARIES:	In part, relate to soil map units and physiographic boundaries together with CZCS imagery patterns
REFERENCES:	Packham (1969)
TOPOGRAPHIC MAPS:	Broken Hill, Adelaide 1:1 m
GEOLOGICAL MAPS:	Australia 1:2.5 m
OTHER SOURCES:	CZCS imagery, Atlas of Australian Soils
COMMENTS:	
COMPILER:	MC, GT, Jan 1986

NAME:	ILLAWARRA
NUMBER:	157
STYLE:	Depositional/Erosional
BASIC FORM:	Coastal Lowlands
SOILS:	Loams and mottled yellow clayey subsoils; Brown Friable earths; Yellow leached earths. Friable loamy earths. Red earths, Prairie soils. (Gn 3.2; Gn 2.14; Um 6.11)
SOILS ASSOCIATION:	Tb38; Gb4; Me1,2; Mb5
DESCRIPTION:	Coastal lowlands bounded in the west by the Great Escarpment. Steep colluvial slump slopes occur beneath the scarp. Lowlands of steep hilly country with incised stream valleys. Large river terraces on coast
REGOLITH:	Ferricrete in lower Shoalhaven Valley (Young, 1978). Alluvial plains in lowland swamps, dune sand, silt and clay (mud) deposits in lowlands. Colluvial deposits associated with structural benches. Some red and black plastic clay soils associated with weathering basalts
GEOLOGY:	Permian - upper marine series and coal measures of Sydney Basin. Triassic continental facies of Sydney Basin. Quaternary beach and aeolian sands. Isolated Tertiary basalt.
ELEVATION:	686 m
RELIEF:	6 to 30 m
MINOR LANDFORMS:	Steep sided tributary valleys in the Shoalhaven catchment, minor terraces and floodplains. Coastal dunes and barrier system, lowland coastal swamps. Scree slopes and structural benches associated with horizontal beds of the Sydney Basin and the Escarpment
BOUNDARIES:	Great Escarpment to the west; Pacific Ocean to the east; Port Hacking to the north; northern end of Budawang Range to the south. Physiographic units are primary determinants, some influence of soil map units and CZCS imagery patterns
REFERENCES:	Young (1978)
TOPOGRAPHIC MAPS:	Sydney 1:1 m
GEOLOGICAL MAPS:	Wollongong 1:250 000, Australia 1:2.5 m
OTHER SOURCES:	CZCS imagery, Atlas of Australian Soils, CSIRO Soils and Land Use Series No 38
COMMENTS:	
COMPILER:	MC, GT, Jan 1986

NAME:	YORKE PENINSULA
NUMBER:	158
STYLE:	Erosional
BASIC FORM:	Undulating lowland
SOILS:	Brown calcareous earths (Gc 1.12, 1.22). Calcareous sands (Uc 1.11). Friable loamy soils (Um 6.24). Sandy soils with mottled yellow clayey subsoils (Dy 5.43). Highly calcareous loamy earths (Gc 1.12). Amorphous loams (Um 5.41). Red duplex (Dr 2.23)
SOILS ASSOCIATION:	DD2; A2,3; Gg2; Ya23; Lb3; F1; 011
DESCRIPTION:	Undulating lowland of folded crystalline and metamorphic rocks; cover of calcrete and stabilized NW-SE longitudinal dunes
REGOLITH:	Calcrete cover, dune sand; lunettes rich in gypsum, clay and silt; evaporites (gypsum and halite). Alunite
GEOLOGY:	Lower Proterozoic metamorphic rocks. Carpentarian granite, acid volcanics and pyroclastics. Cambrian sandstone, siltstone, shale, dolomite, limestone, conglomerate. Permian sandstone, siltstone, conglomerate, tillite. Tertiary marine and lacustrine limestone. Cainozoic aeolian and residual quartz sand; terrestrial limestone, minor sand and clay
ELEVATION:	40-80 m
RELIEF:	0-30 m
MINOR LANDFORMS:	Coastal dunes, salt lakes in south; coastal landforms
BOUNDARIES:	Physiographic unit with soil map unit boundary limiting unit to NE
REFERENCES:	Parkin (1969)
TOPOGRAPHIC MAPS:	Port Augusta 1:1 m
GEOLOGICAL MAPS:	Australia 1:2.5 m
OTHER SOURCES:	Atlas of Australian Soils
COMMENTS:	
COMPILER:	MC, GT, Jan 1986

NAME:	MT LOFTY RANGES
NUMBER:	159
STYLE:	Erosional
BASIC FORM:	Hilly terrain
SOILS:	Hard setting loams with red clayey subsoils (Dr 2.23, 2.22); Highly calcareous loamy earths (Gc 1.12); Hard setting loams with mottled yellow clayey subsoil (Dy 3.42,3.22, Dy 3.61); Coherent sandy soils (Uc 6.11); Cracking clays (Ug 5.2).
SOILS ASSOCIATION:	03; Lb6; Ub5; Ya23; D1; Ua1; Tc1,2,3; Td2; CC6; Q1
DESCRIPTION:	Hills and valleys; alternating subparallel hilly ridges and valleys with a general N-S trend in north. In south, hilly dissected tableland
REGOLITH:	Dissected lateritized surface in south
GEOLOGY:	Proterozoic basement sediments, volcanics, tillites granite. Palaeozoic sediments, glacials all strongly folded with Kanmantoo fold belt
ELEVATION:	0-932
RELIEF:	<5-300
MINOR LANDFORMS:	Colluvial and alluvial fans, hogback and cuesta ridges; intermontane plains, alluvial terraces
BOUNDARIES:	In part, determined by physiographic and soil criteria. Some influence from CZCS imagery patterns
REFERENCES:	Laut & others (1977), Parkin (1969)
TOPOGRAPHIC MAPS:	Adelaide 1:1 m
GEOLOGICAL MAPS:	Australia 1:2.5 m
OTHER SOURCES:	CZCS imagery, Atlas of Australian Soils
COMMENTS:	
COMPILER:	MC, GT, Jan 1986

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NAME:	BASS HILLS
NUMBER:	160
STYLE:	Erosional
BASIC FORM:	Hilly to mountainous country
SOILS:	Friable porous earths, and loamy soils
SOILS ASSOCIATION:	
DESCRIPTION:	Mountainous country with steep hill slopes dissected by narrow, incised, stream valleys; with rounded hills as foothills dissected by small, often swampy stream valleys
REGOLITH:	Mostly alluvial: sand, silt, clay and some gravel
GEOLOGY:	Minor Lower Devonian sediments. Cretaceous sandstone, siltstone, shale, limestone. Tertiary basalt with minor acid volcanics
ELEVATION:	180-586 m
RELIEF:	100-400 m
MINOR LANDFORMS:	Minor steep sided valleys and small stream terraces
BOUNDARIES:	Generally follows major soil map unit boundary but are essentially physiographic
REFERENCES:	Douglas and Fergusson (1976)
TOPOGRAPHIC MAPS:	Melbourne 1:1 m
GEOLOGICAL MAPS:	Australia 1:2.5 m
OTHER SOURCES:	CZCS imagery, Atlas of Australian Soils
COMMENTS:	
COMPILER:	MC, GT, Jan 1986

NAME:	ABERCROMBIE
NUMBER:	161
STYLE:	Erosional
BASIC FORM:	Steep hilly to undulating country
SOILS:	Red earths (Gn 2.15). Yellow earths (2.24). Hard setting loamy soils with mottled yellow clayey subsoil (Dy 3.41, 42). Hard setting loamy soils with red clayey subsoils (Dr 2.21). Friable loamy soil with brown clayey subsoil (Db 3.12)
SOILS ASSOCIATION:	Mu5,6; Mr3,2,4; Tb25; Pb11; Ub39; RR2
DESCRIPTION:	Steep hilly to undulating country south of Macquarie Range. Includes much of the catchment of the Abercrombie River
REGOLITH:	Kaolinised bedrock; commercial quality clays; alluvial terraces; colluvial fans
GEOLOGY:	Ordovician-Silurian sediments and metasediments. Silurian sandstone, siltstone, shale, limestone,; acid volcancis. Tertiary basalt, possibly minor acid volcanics. Upper Devonian-Lower Carboniferous sediments and metasediments
ELEVATION:	500-1214 m
RELIEF:	500 m
MINOR LANDFORMS:	Steep gorges; interlocking spurs, river terraces
BOUNDARIES:	Related to combination of soil map unit boundaries and physiographic boundaries; Some assistance from CZCS imagery patterns
REFERENCES:	Markham & Basden (1974), Packham (1969)
TOPOGRAPHIC MAPS:	Canberra 1:1 m
GEOLOGICAL MAPS:	Australia 1:2.5 m
OTHER SOURCES:	CZCS imagery, Atlas of Australian Soils
COMMENTS:	
COMPILER:	MC, GT, Jan 1986

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NAME:	LOWER MURRAY
NUMBER:	162
STYLE:	Depositional
BASIC FORM:	Floodplain and meander tract
SOILS:	Cracking clays (Ug5.2), brown sands (Uc 5.13, Uc 5)
SOILS ASSOCIATION:	II1
DESCRIPTION:	Floodplain and channel of Lower Murray River. Floodplains, terraces, residual islands, lakes
REGOLITH:	Mainly alluvium: sand, silt and clay. Point bar, shoal, backswamp, splay and lake deposits, and gravel
GEOLOGY:	Cainozoic aeolian and residual sand; alluvial, colluvial and lacustrine sand, silt, clay and gravel. Terrestrial limestone, and minor sand and clay
ELEVATION:	0-100 m
RELIEF:	<10 m
MINOR LANDFORMS:	Seasonal swamps, levees; meanders, meander-loops, and a range of associated fluvial landforms. Lakes
BOUNDARIES:	Channel tract of present river course
REFERENCES:	
TOPOGRAPHIC MAPS:	Adelaide 1:1 m
GEOLOGICAL MAPS:	Australia 1:2.5 m
OTHER SOURCES:	Atlas of Australian Soils
COMMENTS:	
COMPILER:	MC, GT, Jan 1986

NAME: LOWER DARLING
NUMBER: 163
STYLE: Depositional
BASIC FORM: Plain and meander tract
SOILS: Cracking clays (Ug 5.24, 5.25). Crusty loamy soils with red clayey subsoil (Dr 1.13). Red earths (Gn 2.13). Brown calcareous earths (Gc 1.12, 1.22)
SOILS ASSOCIATION: Nb4; CC19; II1; Na3; Mx1; DD3
DESCRIPTION: Flat to gently undulating floodplain and channel tract of the Darling River, anabranches and associated lakes
REGOLITH: Alluvial sand, silt, clay and gravel. A variety of associated fluvial deposits associated with channels and immediate surrounds
GEOLOGY: Tertiary fluvial sandstone, conglomerate. Cainozoic aeolian and residual quartz sand, alluvial, colluvial and lacustrine sand, silt, clay and gravel
ELEVATION: <160 m
RELIEF: <20 m
MINOR LANDFORMS: Various floodplain landforms and lakes of the Menindee System; claypans seasonal swamps
BOUNDARIES: The present meander tract of the Darling River and Great Anabranch, follows closely the soil map unit boundaries. Some influence from CZCS imagery patterns
REFERENCES:
TOPOGRAPHIC MAPS: Adelaide, Broken Hill, Bourke 1:1 m
GEOLOGICAL MAPS: Australia 1:2.5 m
OTHER SOURCES: CZCS imagery, Atlas of Australian Soils
COMMENTS:
COMPILER: MC, GT, Jan 1986

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NAME: PACKSADDLE
NUMBER: 164
STYLE: Depositional
BASIC FORM: Plains
SOILS: Brown calcareous earths (Gc 1.22). Crusty loamy soil with red clayey subsoil (Dr 1.13; 33). Loamy soils with weak pedologic development (Um 5.11). Red earths (Gn 2.13). Various cracking clays (Ug 5.3)
SOILS ASSOCIATION: DD24,25; Na4; BB1; Mx34, 38; MM70,69,71; Nb34
DESCRIPTION: Plains with longitudinal sand dunes and clay pans or low sand rises. Some through drainage ways, particularly in the south
REGOLITH: Dune sand; sheet sand; outwash from broad alluvial channels
GEOLOGY: Minor Ordovician sediments and metasediments. Cretaceous sandstone, siltstone, shale, limestone. Minor Cainozoic alluvial, colluvial and lacustrine sand, silt, clay and gravel; aeolian and residual quartz sand
ELEVATION: 200 m
RELIEF: <20 m
MINOR LANDFORMS: Low sand ridges and longitudinal sand dunes with 'Y' forks towards southwest and south; interdune claypans and swampy regions; playas; lunettes on southwest side of lakes
BOUNDARIES: Combination of soil map units, CZCS imagery pattern and physiography
REFERENCES: Laut & others (1977) [5.3]
TOPOGRAPHIC MAPS: Broken Hill 1:1 m
GEOLOGICAL MAPS: Australia 1:2.5 m
OTHER SOURCES: CZCS imagery, Atlas of Australian Soils
COMMENTS:
COMPILER: MC, GT, Jan 1986

NAME:	LAKE DENMAN
NUMBER:	165
STYLE:	Erosional/depositional
BASIC FORM:	Plain
SOILS:	Red earths (Gn 2.11, 12). Crusty loamy soils with red clayey subsoils (Dr 1.33). Cracking clays (Ug 5.24, 5.25, 5.28)
SOILS ASSOCIATION:	My1; Mx1; CC19; Nb4; II1
DESCRIPTION:	Flat floodplain located between Paroo and Darling Rivers, northwest of their junction. Isolated hills forming an extension of the Thoolabool Range limits the SE side of the unit. Areas exhibits an internal drainage arrangement to numerous ephemeral lakes and nearby claypans
REGOLITH:	Alluvial sand, silt and some gravel, clay deposits, halite and some gypsum, thick soil deposits of \black soil\ affinity
GEOLOGY:	Minor Palaeozoic basement. Cretaceous sandstone, siltstone, shale, limestone. Cainozoic aeolian and residual quartz sand, alluvial, colluvial and lacustrine sand, silt clay and gravel. Ferruginous, aluminous and siliceous duricrust
ELEVATION:	<162 m
RELIEF:	<10 m
MINOR LANDFORMS:	Playas, claypans and lakes, isolated hills at edge of unit in southeast
BOUNDARIES:	Related to soil map units and CZCS imagery patterns and minimally to physiographic boundaries (mostly Rivers and overflow channels)
REFERENCES:	
TOPOGRAPHIC MAPS:	Bourke 1:1 m
GEOLOGICAL MAPS:	Australia 1:2.5 m
OTHER SOURCES:	CZCS imagery, Atlas of Australian Soils
COMMENTS:	
COMPILER:	MC, GT, Jan 1986

NAME:	COORONG PLAIN
NUMBER:	166
STYLE:	Depositional
BASIC FORM:	Coastal barrier, lagoons and limestone dunes
SOILS:	Sandy soil with mottled yellow clayey subsoils, beach sand soils, friable loamy soils. (Uc 2.21, 2.11)
SOILS ASSOCIATION:	Ya6; Ya12; Ya11,18; Ca1; Ag4
DESCRIPTION:	Undulating lands of limestone dunes and sandhills. Coastal barrier lagoons. Exposed limestone substrata (calcrete) in some places. Lakes Alexandria and Albert at the outflow of the Murray River
REGOLITH:	Sand, silt and clay in lowland coastal swamps, some dune sands on the edge of Little and Big Desert regions
GEOLOGY:	Tertiary marine sandstone, siltstone and mudstone. Ordovician granites. Quaternary aeolian and residual quartz sands . Cretaceous sandstone, siltstone, mudstone and limestone. Quaternary colluvial, alluvial and lacustrine sand, silt clay and gravel
ELEVATION:	0-100 m
RELIEF:	6 to 30 m
MINOR LANDFORMS:	Dunes; lowland swamps; riverfloodplains and associated landforms; many small low sand ridges
BOUNDARIES:	Little and Big Desert regions to the northeast and east; Southern Ocean to the southwest; Glenelg River to the south (in part), essentially soil map unit boundaries
REFERENCES:	
TOPOGRAPHIC MAPS:	Adelaide, Hamilton 1:1 m
GEOLOGICAL MAPS:	Australia 1:2.5 m
OTHER SOURCES:	Atlas of Australian Soils
COMMENTS:	
COMPILER:	MC, GT, Jan 1986

NAME:	URBENVILLE
NUMBER:	167
STYLE:	Erosional
BASIC FORM:	Hilly terrain
SOILS:	Red earths (Gn 2.14). Hard setting loamy soils with mottled yellow clayey subsoils (Dy 3.41). Red friable porous earths (Gn 4.41, 4.42). Friable loamy soil with brown clayey subsoil (Db 3.12). Hard setting loamy soil with red clayey subsoil (Dr 2.42). Grey cracking clay (Ug 5.16)
SOILS ASSOCIATION:	MW1; Tb62; Mg26; Rh9; Qd5; M12; Kfh
DESCRIPTION:	Flat to undulating range crests flanked by hilly to steep hilly narrow creek and river floodplains
REGOLITH:	Weathered volcanics; colluvial fans; alluvial sand, silt, clay and minor gravel;
GEOLOGY:	Jurassic sandstone, mudstone, siltstone. Jurassic-Cretaceous sandstone, siltstone, mudstone. Tertiary basalt, minor acid volcanics
ELEVATION:	200-1359 m
RELIEF:	20-400 m
MINOR LANDFORMS:	Scattered high peaks; steep \V\ shaped valleys; creek and river floodplains and minor terraces. Some landslide scars on steeper slopes
BOUNDARIES:	Includes portions of the Richmond and MacPherson Ranges immediately west of Mount Warning. In part, physiographic with contribution from soil map units and CZCS imagery patterns
REFERENCES:	Packham (1969)
TOPOGRAPHIC MAPS:	Armidale 1:1 m
GEOLOGICAL MAPS:	Australia 1:2.5 m
OTHER SOURCES:	CZCS imagery, Atlas of Australian Soils
COMMENTS:	
COMPILER:	MC, GT, Jan 1986

NAME:	CROOKWELL
NUMBER:	168
STYLE:	Erosional/Volcanic
BASIC FORM:	Undulating landscape of low relief
SOILS:	Red Earths. Hard setting loams and mottled yellow clayey subsoils. Yellow earths. (Gn 2.14, 2.15, 2.25, 2.24, 2.35; various Dy and Dr soils)
SOILS ASSOCIATION:	Mn5; Tb25; Mr4
DESCRIPTION:	Undulating to low hilly terrain with low swampy flats. Some areas have basaltic knolls and ridges (some have scarps).
REGOLITH:	Alluvial, colluvial, and red plastic clay rich soils derived from basalt. Laterite, bauxite and silcrete (grey-billy). Sand, gravel and clay. Areas of grus, associated with weathered granites.
GEOLOGY:	Ordovician slate, siltstone, chert, phyllite, sandstone, conglomerate. Silurian acid volcanics, granites, siltstones, shales, sandstones, limestone. Devonian-Carboniferous sandstone, siltstone, shale, chert, limestone, phyllite and schist. Tertiary basalt. Cainozoic mudstones and unconsolidated sediments
ELEVATION:	1034 m-900 m
RELIEF:	30-90 m
MINOR LANDFORMS:	Small valleys; rolling hills; minor river flats and terraces
BOUNDARIES:	Mt. Wayo to the south; Black Bett Mountain and related ridges to the north. Region is between the Abercrombie, Crookwell-Lachlan and Wollondilly Rivers
REFERENCES:	Carter & Branagan in Packham (1969), Young (1981)
TOPOGRAPHIC MAPS:	Canberra 1:1 m
GEOLOGICAL MAPS:	Australia 1:2.5 m Goulburn 1:250 000
OTHER SOURCES:	CZCS Imagery, Atlas of Australian Soils
COMMENTS:	
COMPILER:	MC, GT, Jan 1986

NAME:	TWEED
NUMBER:	169
STYLE:	Erosional/Depositional
BASIC FORM:	Hilly country
SOILS:	Deep yellow-grey cracking clay (Ug 5.28). Leached yellow loamy soil (Um 2.1). Yellow friable earth (Gn 3.5, 3.7, 3.8). Hard setting loamy soil with red clayey subsoil (Dr 2.21). Dark friable porous earth (Gn 4.41). Red friable porous earth (Gn 4.11). Friable loamy grey clayey subsoil (Dg 4.41). Siliceous sand (Uc 1.2). Yellow mottled duplex soils (Dy 3.41)
SOILS ASSOCIATION:	LL6; Fu2; Mf5; Pb19; M13; Mg24,25,27;NY1,2,3; B9; Tb62,64
DESCRIPTION:	Hilly to steep hilly country with narrow valleys along the streams. River floodplains and coastal plains along coast.
REGOLITH:	Minor only
GEOLOGY:	Upper Devonian-Lower Carboniferous sediments. Triassic acid and intermediate volcanics, and pyroclastics, sediments. Jurassic sandstone, siltstone, shale. Tertiary basalt.
ELEVATION:	0-1156 m
RELIEF:	<20-900 m
MINOR LANDFORMS:	Ancient crater remnants of very large volcanic complex
BOUNDARIES:	Physiographic boundaries in the vicinity of Mt Lamington
REFERENCES:	Packham (1969)
TOPOGRAPHIC MAPS:	Armidale, Brisbane 1:1 m
GEOLOGICAL MAPS:	Australia 1:2.5 m
OTHER SOURCES:	CZCS imagery, Atlas of Australian Soils
COMMENTS:	
COMPILER:	MC, GT, Jan 1986

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NAME:	BLUE MOUNTAINS
NUMBER:	170
STYLE:	Erosional
BASIC FORM:	Dissected sandstone plateau
SOILS:	Yellow leached Earths. Red friable porous earths. Hard setting loamy soils with mottled yellow clayey subsoil. Friable loamy soils (Gn2.74,2.34, Um 6.11)
SOILS ASSOCIATION:	Mg2; Mg20; Tb35; Gb6
DESCRIPTION:	Dissected sandstone plateau of moderate to strong relief with sandstone pillars, ledges, and slabs - level to undulating ridges, irregularly benched slopes, steep ridges, cliffs, conyons and narrow sandy valleys
REGOLITH:	Ironstone gravel in soil on plateau surface remnants. Sandy soils. Sand, silt and clay rich alluvium and colluvium
GEOLOGY:	Hawkesbury sandstone (massive quartz sandstone) overlying Narabeen Group (sandstone, conglomerate, siltstone), both Triassic . Overlie Permian Illawarra Coal Measures.
ELEVATION:	Plateau surface 900 to 1200 m
RELIEF:	Over 350 m
MINOR LANDFORMS:	Structural benches; minor river flats and terraces; small alluvial plains and minor floodplain landforms; cliffs
BOUNDARIES:	Nepean River and Emu Plains to the east; Hunter Valley to the north; Dividing Range-West, Mt.Lindsay-Mt Wanganderry to the south. Primarily soil map unit boundaries
REFERENCES:	Packham (1969)
TOPOGRAPHIC MAPS:	Sydney, Canberra 1:1 m
GEOLOGICAL MAPS:	Wollongong, Sydney, Singleton 1:250 000, Australia 1:2.5 m
OTHER SOURCES:	CZCS imagery, Atlas of Australian Soils, CSIRO Soil and Land Use Series No 38, CSIRO Land Research Series No 8
COMMENTS:	
COMPILER:	MC, GT, Jan 1986

NAME:	CUMBERLAND
NUMBER:	171
STYLE:	Erosional
BASIC FORM:	Hilly basin
SOILS:	Hard setting loamy soils and red subsoils. Hard setting loamy with yellow clayey subsoil. Red Podzolic. (Dr 2.21, Dy 3.41,3.42 , Dy 2.61)
SOILS ASSOCIATION:	Pb12,13; Sp1; X9; Mb2; Tb35
DESCRIPTION:	Gently rolling, rounded hilly and steep hilly country in a large basin. Ridge and valley country of gently undulating ridge tops and steep side slopes; often with slumping in the south. More gently rolling country with some sleep slopes and broad valleys in centre and north. Gently undulating plain in north-west corner
REGOLITH:	Ironstone gravels occur in soils or as a surface cover. Slump deposits on steep slopes. Colluvium, alluvium: sand, silt, clay and gravels
GEOLOGY:	Triassic shale and lithic sandstone of the Wianamatta Group, Sydney Basin
ELEVATION:	0-500 m
RELIEF:	30 to 90 m
MINOR LANDFORMS:	River terraces, floodplains, levees, minor floodplain landforms
BOUNDARIES:	Nepean River, Lapstone Monocline to west; isolated portions of Sydney Basin sediments forming hills to north - Terry Hills, Mt Coolah, Hornsby Plateau. Wooranora Plateau to S.E. Soil map units are prime boundary determinants
REFERENCES:	Packham (1969)
TOPOGRAPHIC MAPS:	Sydney 1:1 m
GEOLOGICAL MAPS:	Sydney, Wollongong 1:250 000, Australia 1:2.5 m
OTHER SOURCES:	CZCS imagery, Atlas of Australian Soils, CSIRO Soils & Land Use Series No 38
COMMENTS:	
COMPILER:	MC, GT, Jan 1986

NAME:	BARRIER RANGES
NUMBER:	172
STYLE:	Erosional
BASIC FORM:	Ranges and undulating lowlands
SOILS:	Brown cracking clays. Amorphous loamy soils. Crusty loamy soils with red clayey subsoils, sporadically leached A2 horizon. (Um 5.41, 5.11, 1.43; Uc 1.43)
SOILS ASSOCIATION:	F5; Nb34; MM71; Nb33
DESCRIPTION:	Ranges of hills with small valley plains. Prominant strike ridges surrouned by extensive clay plains
REGOLITH:	Alluvium Colluvium: sand, silt and clays. Gypsum clays, aeolian sands, gypsum, kunkar, silcrete (grey-billy), and ferruginous and aluminous duricrusts
GEOLOGY:	Lower Proterozoic quartzite, gneiss, schist, amphiboltie of Broken Hill Block. Proterozoic (Adelaidian) tillite, limestone, sandstone, siltstone and shale. Cretaceous shale, siltstone, limestone. Quaternary aeolian and residual quartz sand; sand, silt, clay and gravel - colluvial alluvial, lacustrine and marine
ELEVATION:	270-475 m
RELIEF:	90-180 m
MINOR LANDFORMS:	Elongate group of low hills
BOUNDARIES:	Mundi Mundi Plain to the west. The Gap, The Bluff, Mt Gairdner to the east. Pine Creek to the south. Nundooka to the north (Darling-Murray Plains)
REFERENCES:	Packham (1969)
TOPOGRAPHIC MAPS:	Broken Hill, Adelaide 1:1 m
GEOLOGICAL MAPS:	Australia 1:2.5 m
OTHER SOURCES:	CZCS imagery, Atlas of Australian Soils
COMMENTS:	
COMPILER:	MC, GT, Jan 1986

NAME:	MACQUARIE RANGE
NUMBER:	173
STYLE:	Erosional
BASIC FORM:	Hilly range
SOILS:	Red and yellow earths. Hard setting loamy soil with mottled yellow clayey subsoil. (Gn 2.14, 2.24, 2.44)
SOILS ASSOCIATION:	Mu8; Mn12; Mr2; Tb34
DESCRIPTION:	Strongly undulating to hilly country with some lower relief on ridge crests; some basaltic knolls and ridges . In west, broken by hilly ranges and steep valley- side slopes
REGOLITH:	Alluvium, colluvium: sand, silt, clay and gravel. Red highly plastic clay soils associated with weathering basalts. Grus associated with weathering granites. Kaolin deposits (Trunkey area)
GEOLOGY:	Ordovician slate, sandstone, limestone, siltstone, conglomerate, chert, phyllite. Ordovician basic and intermediate volcanics. Silurian granites, acid volcanics. Lower Devonian granites, sandtone, siltstone, shale, and acid and intermediate volcanics. Devonian-Carboniferous sandstone, siltstone, shale, chert, limestone, phyllite, schist. Carboniferous granites. Tertiary basalt
ELEVATION:	1000-1400 m
RELIEF:	30-180 m
MINOR LANDFORMS:	Low rolling hills, minor valley floodplains and floodplain landforms, minor terraces; structural benches and steep gorges
BOUNDARIES:	Watershed of Abercrombie River to the south. Mid-slopes of Macquarie River catchment to the north. Mt Davidson to Kanangra Walls to the east and south east. Soil map units are a major boundary determinant, physiographic units and CZCS imagery pattern are of lesser influence
REFERENCES:	Packham (1969); Baker and Uren (1982)
TOPOGRAPHIC MAPS:	Canberra, Sydney 1:1 m
GEOLOGICAL MAPS:	Bathurst, Goulburn 1:2 50 000, Australia 1:2.5 m
OTHER SOURCES:	CZCS imagery, Atlas of Australian Soils
COMMENTS:	
COMPILER:	MC, GT, Jan 1986

NAME:	BATHURST
NUMBER:	174
STYLE:	Erosional
BASIC FORM:	Rugged ranges
SOILS:	Red earths. Friable loamy soils. Duplex hard setting loamy soils with mottled yellow clayey subsoils. Hard setting loams with red clayey subsoils
SOILS ASSOCIATION:	Mw12; Mu8; Gb7; Qb12; Tb30; Qb6; Qb16
DESCRIPTION:	Rugged ranges in a series of stepped undulating to hilly ridges with steep sided slopes. Steep slopes above entrenched steams with very narrow floodplains. Undulatng to hilly ridge tops (plateau tracts) have perched seasonally swampy basins and/or valleys. Rolling to step hilly country in north and south with some steep scarps
REGOLITH:	Kaolin deposits in Mullions Range Volcanics. Alluvial clay, sand and gravel below basalts of Mt Panorama. Kaolinized granite overlian by silcrete and basalt. Strongly weathered Devonian shales (3 m), mottled red and grey slates, high grade Kaolin in the Mudgee-Ulan area. Kaolin filled palaeodrainage systems in Gulgong district - 8 m of clay; weathering to 35 m
GEOLOGY:	Ordovician intermediate and basic volcanics. Silurian acid volcanics, siltstone, sandstone, shale, limestone and granites. Lower Devonian sandstone siltstone, shale and limestone. Upper Devonian-Carboniferous sandstone, siltstone, chert, shale, limestone, phyllite and schist. Upper Carboniferous acid volcanics, granites. Permian siltstone, sandstone, mudstone, limestone, tillite. Triassic sandstone, siltstone, mudstone. Tertiary basalt.
ELEVATION:	500-1072 m
RELIEF:	6 to 365 m
MINOR LANDFORMS:	Isolated Hills above rolling (undulating) hills
BOUNDARIES:	Macquarie Range to south; Mt Bangalor to the north; Dividing Range to the northeast and east
REFERENCES:	Packham (1969), Baker and Uren, (1982)
TOPOGRAPHIC MAPS:	Canberra 1:1 m
GEOLOGICAL MAPS:	Australia 1:2.5 m
OTHER SOURCES:	CZCS imagery, Atlas of Australian Soils
COMMENTS:	
COMPILER:	MC, GT, Jan 1986

NAME: WALDONA WELL
NUMBER: 175
STYLE: Erosional/Depositional
BASIC FORM: Dunefield
SOILS: Red earths (Gn 2.12). Earthy red sand (Uc 5.21). Siliceous sands (Uc 1.2)
SOILS ASSOCIATION: My116; AB80; B61
DESCRIPTION: An undulating plain with parallel dunes, numerous small claypans and low rises with silcrete gibbers
REGOLITH: Silcrete gibbers on rises, dune and sheet sands; clay; evaporites (halite, gypsum)
GEOLOGY: Minor Lower Proterozoic metamorphics in Gawler Block. Cambro-Carboniferous sediments of Officer Basin. Cretaceous sandstone, siltstone, limestone. Cainozoic sandstone, siltstone, limestone; aeolian and residual quartz sand; ferruginous, aluminous and siliceous duricrusts
ELEVATION: 200 m
RELIEF: <6 m
MINOR LANDFORMS: East-west oriented sand dunes; low rises and claypans, salt lakes. Dunes fork toward west; low rises with duricrust
BOUNDARIES: Combination of soil map units, physiographic boundaries and CZCS imagery patterns
REFERENCES:
TOPOGRAPHIC MAPS: Nullarbor, Tarcoola 1:1 m
GEOLOGICAL MAPS: Australia 1:2.5 m
OTHER SOURCES: CZCS imagery, Atlas of Australian Soils
COMMENTS:
COMPILER: MC, GT, Jan 1986

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NAME: GREAT VICTORIA 2
NUMBER: 176
STYLE: Depositional/erosional
BASIC FORM: Dunefield
SOILS: Red earthy sands (Uc 5.21). Siliceous sands (Uc 1.23). Red earths on duricrusted rises (Gn 2.12)
SOILS ASSOCIATION: B42; AB66; My117
DESCRIPTION: An extensive dunefield with duricrusted rises and shallow depressions
REGOLITH: Aeolian sand, ferricrete, calcrete, silcrete on low rises; sheet sands
GEOLOGY: Cambro-Permian Officer Basin sediments: sandstone, limestone, siltstone, conglomerate. Cainozoic aeolian and residual quartz sands. Permian tillites and shales. Minor Archean granite. Ferruginous, aluminous and siliceous duricrusts. Quaternary gypsum, halite, minor sand and clay
ELEVATION: 220 m
RELIEF: 6-30 m
MINOR LANDFORMS: Low duricrusted rises, linear dunes; broad shallow depressions
BOUNDARIES: Combination of soil map units and CZCS imagery patterns together with various physiographic boundaries
REFERENCES:
TOPOGRAPHIC MAPS: Nullarbor, Tarcoola, Oodnadatta, Petermann Range 1:1 m
GEOLOGICAL MAPS: Australia 1:2.5 m
OTHER SOURCES: CZCS imagery, Atlas of Australian Soils
COMMENTS:
COMPILER: MC, GT, Jan 1986

NAME:	HUNTER
NUMBER:	177
STYLE:	Erosional/Depositional
BASIC FORM:	Lowlands of the Hunter with mountains in the north
SOILS:	Soloths, Chernozems, Lithosols, Red Brown Earths. Loamy soils and with mottled yellow clayey subsoil. (Um 4; Dy 3.42; Dr 2.33; Dy 3.41; Um 6.11)
SOILS ASSOCIATION:	Ta7; LL4; Oc10; Lkb48
DESCRIPTION:	Two types of country present. Through the centre of the Hunter valley a belt of unduating to gently hilly lowlands has developed on weak sedimentry rocks. Large alluvial flats extend along the Hunter. To the north is a tract of mountainous country developed on resistant sedimentary rocks
REGOLITH:	Ironstone gravel in soils of lowlands. Large alluvial flats along Hunter River. Transported kaolin derived from Carbonifeous Volcanics - intense red ironstained, grey clay and fine sand in Swan Bay area
GEOLOGY:	Lower Devonian sandstone, siltstone, shale. Upper Devonian-Lower Carboniferous sandstone, siltstone, shale, chert, limestone, phyllite, schist. Upper Carboniferous acid volcanics, sandstone, mudstone, siltstone. Permian sandstone, siltstone, tillite, mudstone, limestone; acid, intermediate, minor basic volcanics and pyroclastics and granites. Triassic sandstone, siltstone, mudstone. Tertiary basalt, minor acid volcanics
ELEVATION:	0-1000 m
RELIEF:	6 to 90 m for lowlands, 300 m plus for northern mountains
MINOR LANDFORMS:	Alluvial flats of Hunter River. Alluvial fans and structural benches along Sydney Basin boundary edges
BOUNDARIES:	Barington Tops to the north; Mt Wambo west, watershed of Hunter valley, Dividing Range to the northwest
REFERENCES:	Packham (1969), Baker and Uren, (1982)
TOPOGRAPHIC MAPS:	Sydney, Armidale 1:1 m
GEOLOGICAL MAPS:	Singleton, Newcastle, Tamworth 1:250 000, Australia 1:2.5 m
OTHER SOURCES:	CZCS imagery, Atlas of Australian Soils, CSIRO Land Research Series No 8
COMMENTS:	
COMPILER:	MC, GT, Jan 1986

NAME:	TALLARINGA WELL
NUMBER:	178
STYLE:	Depositional
BASIC FORM:	Palaeodrainage network
SOILS:	Red earths (Gn 2.12)
SOILS ASSOCIATION:	My116, 117; My152
DESCRIPTION:	Large palaeodrainage network within unit 117, draining to the south
REGOLITH:	Dune sand; sheet sands; clay deposits, silts; evaporites (gypsum and halite)
GEOLOGY:	Cretaceous sandstone, siltstone, shale, limestone. Cainozoic aeolian and residual sand; ferruginous, aluminous and siliceous duricrusts. Quaternary: gypsum, halite and minor sand and clay
ELEVATION:	<200 m
RELIEF:	<30 m
MINOR LANDFORMS:	Linear dunes; lakes; clay pans
BOUNDARIES:	Defined by CZCS imagery patterns
REFERENCES:	
TOPOGRAPHIC MAPS:	Tarcoola 1:1 m
GEOLOGICAL MAPS:	Australia 1:2.5 m
OTHER SOURCES:	CZCS imagery, Atlas of Australian Soils
COMMENTS:	
COMPILER:	MC, GT, Jan 1986

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NAME:	LAKE MAURICE
NUMBER:	179
STYLE:	Depositional
BASIC FORM:	Plain
SOILS:	Brown calcareous earths (Gc 1.22, 1.12). Shallow red sands (Uc 5.21)
SOILS ASSOCIATION:	AB80, DD30
DESCRIPTION:	Plains with occasional low scarps. Some sand dunes low calcrete rises. Calcrete sometimes, at depth of <30 cm
REGOLITH:	Calcrete beneath surface sands. Aeolian dune sands
GEOLOGY:	Cambro-Permian sandstone, siltstone, limestone (Officer Basin). Permian sandstone, siltstone, conglomerate, tillite. Cainozoic calcrete; minor aeolian and residual quartz sands; minor sand, silt and clay. Quatarnary evaporites (gypsum and halite)
ELEVATION:	<200 m
RELIEF:	<30 m
MINOR LANDFORMS:	Lakes, claypans, low ridges, low scarps, calcrete rises; linear sand dunes trending northeast-southwest
BOUNDARIES:	Influenced in part by soil map units combined with edges of dunefields
REFERENCES:	
TOPOGRAPHIC MAPS:	Nullarbor Plain 1:1 m
GEOLOGICAL MAPS:	Australia 1:2.5 m
OTHER SOURCES:	Atlas of Australian Soils
COMMENTS:	
COMPILER:	MC, GT, Jan 1986

NAME:	NULLARBOR
NUMBER:	180
STYLE:	Erosional
BASIC FORM:	Karst plain
SOILS:	Shallow loamy calcareous soils (Um 5.11)
SOILS ASSOCIATION:	BB35, 40, 34
DESCRIPTION:	Covered karst plain of flat-lying limestone with closed depressions and caves; continuous cliff margin on south. Traces of surface drainage occasionally form elongated chains of dry lakes
REGOLITH:	Pliocene aeolianites, Ripon Calcrete, Loveday soil in aeolian sand sheets. Dune sand forms a thin veneer infilling sink holes in Nullarbor Limestone
GEOLOGY:	Cretaceous Oofficer Basin sediments: sandstone, siltstone, limestone. Tertiary marine limestone, some calcrete. Cainozoic aeolian and residual quartz sand, minor alluvial, colluvial and lacustrine sand, silt, clay and gravel. Minor Middle Proterozoic granite
ELEVATION:	200 m
RELIEF:	< 5 m; 100 m at coastal marine cliffs
MINOR LANDFORMS:	Broad shallow depressions; serpentine lakes; claypans; sinkholes; caves; dolines, Rockholes with water in some cases. Marine cliffs
BOUNDARIES:	To the south the edge of the Hampton Tableland indicates the boundary. To the north the combination of soil map units, units from Laut & others (1977) and AVHRR imagery patterns have been used to determine the boundary
REFERENCES:	Laut & others (1977)
TOPOGRAPHIC MAPS:	Nullarbor, Kalgoorlie, Esperance 1:1 m
GEOLOGICAL MAPS:	Australia 1:2.5 m
OTHER SOURCES:	AVHRR imagery, Atlas of Australian Soils
COMMENTS:	
COMPILER:	MC, GT, Jan 1986

NAME:	CARLISLE
NUMBER:	181
STYLE:	Erosional/depositional
BASIC FORM:	Plain
SOILS:	Brown calcareous earths (Gc 1.12, 1.22). Red earthy sands (Uc 5.21). Loamy calcareous soils (Um 5.11). Calcareous siliceous loamy soils (Um 1.2)
SOILS ASSOCIATION:	DD34; AB80,81,82,83; BB38; SV13
DESCRIPTION:	Sandstone plain with shallow closed depression, playas. Closed depression up to 30 m deep and 4 km across containing claypans. Northern margin characterised by numerous saline playas near palaeodrainage discharge points
REGOLITH:	Level surface with crusted white halite, capping brine saturated silty clay, rich in authigenic gypsum crystals up to 3-4 cm long. Some dune sand but rare
GEOLOGY:	Middle Proterozoic Officer Basin sediments: quartzites, shale, chert, dolomite. Permian and Cretaceous Officer Basin sediments. Tertiary marine sandstone, siltstone, mudstone, limestone. Cainozoic aeolian and residual quartz sands. Quaternary gypsum, halite and minor sand, silt and clay
ELEVATION:	200-500 m
RELIEF:	<5 m
MINOR LANDFORMS:	Rare linear dunes, saline playas claypans, lakes, broad shallow depressions
BOUNDARIES:	Based on a combination of soil map units, extent of the Great Victoria Desert dunefield, and map units of Laut & others (1977)
REFERENCES:	Laut & others (1977), Jackson & van de Graaff (1981)
TOPOGRAPHIC MAPS:	Nullarbor, Kalgoorlie 1:1 m
GEOLOGICAL MAPS:	Australia 1:2.5 m
OTHER SOURCES:	Atlas of Australian Soils
COMMENTS:	
COMPILER:	MC, GT, Jan 1986

118a

NAME:	WARRUMBUNGLE
NUMBER:	182
STYLE:	Volcanics
BASIC FORM:	Volcanic
SOILS:	Red sandy loam, red and black clays, cracking clays
SOILS ASSOCIATION:	Kb4
DESCRIPTION:	Rugged eroded volcanic pile indicating planeze forms at interfluves. Deeply dissected, eroded plugs, rare dykes. Shallow soils at higher altitudes
REGOLITH:	Soft highly weathered volcanic rocks, clay soils, silty clay, alluvial deposits, clay, sandy-clay gravel and lignite below basalts. Silcrete associated with basalt (indurated by contact with basalt). High level fluvial gravels indicating palaeodrainage of ancestral Castlereagh River
GEOLOGY:	Jurassic sandstone, siltstone, mudstone. Tertiary basalt, minor acid volcanics, alkaline lavas of Warrumbungle volcano. Volcanic pile comprises lava flows and interbedded pyroclastics. Trachyte, and trachytic breccias near the trachyte intrusions, are common
ELEVATION:	500-1205 m
RELIEF:	50-200 m
MINOR LANDFORMS:	Eroded dyke walls; minor stream valleys and alluvial deposits, volcanic neck remnants (plugs), flows, domes. Steep valleys exposing sections through volcanic pile
BOUNDARIES:	Following 500 m contour. Isolates high country on general volcanic pile
REFERENCES:	Packham (1969); Kenny (1963); Jensen (1907), (1906)
TOPOGRAPHIC MAPS:	Bourke 1:1 m
GEOLOGICAL MAPS:	Australia 1:2.5 m
OTHER SOURCES:	Atlas of Australian Soisl
COMMENTS:	
COMPILER:	MC, GT, Jan 1986

NAME:	GREAT VICTORIA 1
NUMBER:	183
STYLE:	Erosional/Depositional
BASIC FORM:	Sandplains of dunefields
SOILS:	Brown calcareous earths (Gc 1.12, 1.22). Earthy red sands (Uc 5.21)
SOILS ASSOCIATION:	DD31; AB48; AB80,83
DESCRIPTION:	Aeolian sandplains and dunes. Sandsheets with ripples and small dunes are common; dunes are present throughout and rare draas are known. Sand dunes are longitudinal
REGOLITH:	Dune sand; sheet sand; evaporites (gypsum and halite); some siliceous, aluminous, and ferruginous duricrusts windowed in sand sheets
GEOLOGY:	Minor Cambrian basic volcanics of Officer Basin. Cambro-Carboniferous sandstone, siltstone, limestone, conglomerate (Officer Basin). Permian sandstone, siltstone, shale, tillite, limestone (Officer Basin). Cretaceous sandstone, siltstone, shale, limestone (Officer Basin). Cainozoic aeolian and residual quartz sand, ferruginous, aluminous and siliceous duricrust
ELEVATION:	200-500 m
RELIEF:	Sand dunes 3 to 30 m high
MINOR LANDFORMS:	Linear dunes; rare draas; sandsheets, low dune ridges, claypans; playas
BOUNDARIES:	In part, based on data from Officer Basin physiographic map (Jackson & van de Graaff), some influence from Laut & others (1977)
REFERENCES:	Jackson & van de Graaff (1981), Laut & others (1977)
TOPOGRAPHIC MAPS:	Nullarbor, Kalgoorlie, Wiluna 1:1 m
GEOLOGICAL MAPS:	Australia 1:2.5 m
OTHER SOURCES:	Atlas of Australian Soils
COMMENTS:	
COMPILER:	MC, GT, Jan 1986

NAME:	ROE
NUMBER:	184
STYLE:	Erosional
BASIC FORM:	Coastal Plain
SOILS:	Brown calcareous earths (Gc 1.12, 1.22). Loamy soils with weak pedologic development (Um 5.11). Calcareous sand (Uc 1.1)
SOILS ASSOCIATION:	DD35; BB41; A2
DESCRIPTION:	Coastal plain with extensive dunes; some caves and sinkholes
REGOLITH:	Calcareous soils; calcareous sand, dune sands (calcareous)
GEOLOGY:	Marine and some lacustrine limestone over Cretaceous Officer Basin sediments. Cainozoic aeolian and residual quartz sand. Quaternary calcareous sand, and limestone (coastal aeolian deposits)
ELEVATION:	0-120 m
RELIEF:	60-70 m
MINOR LANDFORMS:	Linear and 'Y' shaped sand dunes, some curved into crescent-like shapes (concave face to west). Beaches, rockholes, caves; minor karst features
BOUNDARIES:	Topographic limit is the scarp separating the Roe plain from the Hampton tableland. This also relates closley to soil map unit boundaries. The southern limit is the ocean
REFERENCES:	
TOPOGRAPHIC MAPS:	Nullarbor, Eyre 1:1 m
GEOLOGICAL MAPS:	Australia 1:2.5 m
OTHER SOURCES:	Atlas of Australian Soils
COMMENTS:	
COMPILER:	MC, GT, Jan 1986

NAME:	BARRINGTON
NUMBER:	185
STYLE:	Volcanic
BASIC FORM:	Isolated steep range with high summit plateau
SOILS:	Organic loamy soils. Leached friable earths. Xanthozems. Skeletal fine textured humic soils (stone lines common). (Gn 3.42; Um 7.11; Gn 3.54, 3.64, 3.74, 3.84)
SOILS ASSOCIATION:	KK3; Mf4
DESCRIPTION:	Undulating plateau on Tertiary basalt overlying folded Palaeozoic rocks. Permian intrusives form part of plateau. High relief and rugged at southern edge
REGOLITH:	Basalt scree; stony skeletal soils, exposed sub-basaltic gravels. Thick colluvial deposits over granites; thin colluvial deposits over basalt. Thin extensive basalt derived colluvium on outer edges of benches.
GEOLOGY:	Lower Devonian sandstone, siltstone, shale. Upper Devonian-Lower Carboniferous sandstone, siltstone, shale, chert, limestone, schist, phyllite. Upper Carboniferous acid volcanics, sandstone, siltstone, mudstone. Permian acid and intermediate volcanics, minor basic volcanics, pyroclastics, `ranites, sandstone, tillite, limestone. Tertiary basalt and minor acid volcanics - age 52-53 Ma (Wellman & McDougall, 1974)
ELEVATION:	200-1560 m
RELIEF:	180-365 m
MINOR LANDFORMS:	Benches resulting from multiple basalt flows and subsequent stripping to Palaeozoic basement sediments, Barrington Tops plateau-isolated parts of Mt Royal Range. Disturbed ground resulting from landslides
BOUNDARIES:	Mid slopes of Hunter Valley to the south-southeast. Gloucester River to the east. Hunter River upper reaches and tributaries to the north-northwest
REFERENCES:	Pain (1983); Wellman & McDougall (1974)
TOPOGRAPHIC MAPS:	Sydney 1:1 m
GEOLOGICAL MAPS:	Singleton Tamworth, Hastings 1:250 000, Australia 1:2.5 m
OTHER SOURCES:	CZCS imagery, Atlas of Australian Soils, CSIRO Land Research Series No 8
COMMENTS:	
COMPILER:	MC, GT, Jan 1986

NAME:	NEALE
NUMBER:	186
STYLE:	Depositional
BASIC FORM:	Sand plain
SOILS:	Earthy red sand soils (Uc 5.21, Ks-Uc 5.21). Brown calcareous earths (Gc 1.22, 1.12)
SOILS ASSOCIATION:	AB83; DD34; AB32; AY4
DESCRIPTION:	Sand-blanketted, gently undulating plateau
REGOLITH:	Blanket of aeolian sand. Clay and silt. Evaporites: gypsum and halite. Silcrete and ferruginous capping. Lateritised sediments (Permian). Sandy ironstone gravels
GEOLOGY:	Isolated occurrence of Upper Eocene marine sediments in southwest corner indicating Neale Plateau formed during Late Eocene marine transgression. Isolated Archaean granites. Middle Proterozoic quartzite, shale, chert, dolomite. Cainozoic aeolian and residual sand, ferruginous, aluminous and siliceous duricrusts.
ELEVATION:	200-500 m
RELIEF:	<100 m
MINOR LANDFORMS:	Scarp and footslope with alluvial fans; playas; claypans; linear dunes trending east-west, with forks facing west
BOUNDARIES:	Bounded in north and east by a gently curved scarp, consisting of lateritised Paterson Formation. Truncated by Carlise Plain to south. Primarily physiographic but with some influence from soil map unit boundaries
REFERENCES:	Van de Graaff & others (1977), Bunting & others (1974); Jackson & van de Graaff (1981)
TOPOGRAPHIC MAPS:	Kalgoorlie 1:1 m
GEOLOGICAL MAPS:	Australia 1:2.5 m
OTHER SOURCES:	Atlas of Australian Soils
COMMENTS:	
COMPILER:	MC, GT, Jan 1986

NAME:	LILIAN CK
NUMBER:	187
STYLE:	Depositional
BASIC FORM:	Majorvalleys
SOILS:	Loamy soils of minimal development (Um 1.2). Coherent Sands (Uc 1.43). Brown calcareous earths (Gc 1.22). Earthy red sands (Uc 5.21); Red earths (Gn 2.12)
SOILS ASSOCIATION:	SV13; B42,61; DD31; AB48; My112,109; BA21,27
DESCRIPTION:	Major valleys in north to south direction; in the north floored by calcrete with mound and karst topography; in south containing salt lakes and claypans
REGOLITH:	Sand sheets and dune sands. Evaporites (gypsum, halite), kopi dunes, clay and silt, outwash sands
GEOLOGY:	Minor Lower Palaeozoic basic volcanics. Cambro-Carboniferous (Officer Basin) sandstone, siltstone, shale. Cainozoic aeolian and residual quartz sand; ferruginous, aluminous and siliceous duricrusts. Some Quaternary gypsum, halite and clay
ELEVATION:	<600 m
RELIEF:	10-100 m
MINOR LANDFORMS:	Longitudinal east-west dune systems; ephemeral lake systems, playas, claypans. Karst and mound topography due to extensive calcrete development
BOUNDARIES:	Defined by combination of physiographic units, soils and CZCS imagery patterns and boundaries
REFERENCES:	
TOPOGRAPHIC MAPS:	Petermann Ranges, Nullarbor Plain 1:1 m
GEOLOGICAL MAPS:	Australia 1:2.5 m
OTHER SOURCES:	CZCS imagery, Atlas of Australian Soils
COMMENTS:	
COMPILER:	MC, GT, Jan 1986

NAME:	HASTINGS
NUMBER:	188
STYLE:	Erosional/Depositional
BASIC FORM:	Coastal lowlands
SOILS:	Red friable earths; Grey earths; Calcareous sands; loamy soils with yellow mottled clayey subsoils
SOILS ASSOCIATION:	Mc3,4; Tb43,7; A9; Ta7
DESCRIPTION:	Broad, flat floodplains of coastal rivers, coastal barriers and lagoons
REGOLITH:	Alluvium, colluvium; aeolian dune sand; sand silt clay and gravel on fluvial floodplains. Kaolin deposits (South West Rocks) transported and residual; derived from weathered granite basement (20 m to 3 m)
GEOLOGY:	Ordovician-Devonian schist, phyllite, sandstone, mudstone. Lower Devonian sandstone, siltstone, shale. Upper Devonian-Lower Carboniferous sandstone, siltstone, shale, chert, limestone, phyllite, schist. Upper Carboniferous sandstone, mudstone, siltstone. Permian sandstone, siltstone, mudstone, tillite, limestone; ultramafic intrusives. Triassic granites, sandstone, siltstone, mudstone. Quaternary sand, silt, clay and gravel (alluvial, lacustrine, colluvial, marine). Coastal aeolian dunes
ELEVATION:	0-200 m
RELIEF:	6 to 90 m
MINOR LANDFORMS:	Coastal lowland alluvial plains; coastal sand dunes; flood plain landforms (various types). Colluvial and alluvial fans. Range of coastal landforms: platforms etc
BOUNDARIES:	Pacific Ocean to the east; steeper country at lower slopes at foot of Great Escarpment
REFERENCES:	Baker and Uren (1982)
TOPOGRAPHIC MAPS:	Armidale 1:1 m
GEOLOGICAL MAPS:	Australia 1:2.5 m
OTHER SOURCES:	CZCS imagery, Atlas of Australian Soils
COMMENTS:	
COMPILER:	MC, GT, Jan 1986

NAME:	BREDBO
NUMBER:	189
STYLE:	Erosional
BASIC FORM:	Hilly graben
SOILS:	Loams with weak horizon development; soils with mottled clayey subsoils; solodized solonetz, solodic; lithosols (shallow loamy soils), (Um4.2, Dy3.42)
SOILS ASSOCIATION:	Fa3, Ub36;
DESCRIPTION:	Hilly corridor of land between the Brindabella and Tinderry Ranges. Some broad valleys with gently undulating surface such as at Michelago. Alluvial flats of the Murrumbidgee and Umeralla River to the south
REGOLITH:	Koalinitic deep weathering profiles; palaeosols; over 100 m of sediments of the mostly concealed Miocene Lake Bunyan. Large transported silcrete boulders
GEOLOGY:	Silurian volcanics and volcanoclastics (Colinton Volcanics, Mt Painter Porphyry)
ELEVATION:	750 - 1147
RELIEF:	90 - 180
MINOR LANDFORMS:	Minor river valleys and floodplain landforms, undulating rounded hills with steep, hilly to mountainous terrain at the edges of the corridor
BOUNDARIES:	Murrumbidgee Fault scarp and Brindabella Ranges to the west Tinderry Range to the east. Boundaries are essentially physiographic, with some influence from both the soil map units and CZCS imagery patterns
REFERENCES:	Pillans (1974), Browne (1972)
TOPOGRAPHIC MAPS:	Michelago, Cooma 1:100 000, Canberra 1:1 m
GEOLOGICAL MAPS:	Canberra, Bega 1:250 000, Michelago 1: 100 000
OTHER SOURCES:	CZCS imagery, Atlas of Australian Soils
COMMENTS:	
COMPILER:	GT, MC, Dec 1985

NAME:	TINDERRY
NUMBER:	190
STYLE:	Erosional
BASIC FORM:	Steep-sided mountain range
SOILS:	Loamy soils with mottled yellow subsoil, Brown calcareous soils (Um5.5)
SOILS ASSOCIATION:	Ub34; Mw13; Qb8; FA2
DESCRIPTION:	Steep-sided mountain range with narrrow ridges. High relief, deeply incised stream valleys
REGOLITH:	Weathered remnants of Tertiary olivine basalt with clay-rich, plastic, red and black soils. Isolated pockets of Quaternary sand, silt and clay as well as soils. Weathered granite grus mantles with kaolin rich sandy soil common.
GEOLOGY:	Upper Ordovician sediments and meta-sediments. Silurian-Devonian granite (Tinderry Granite, Michelago Granite, Sapling Granite). Tertiary basalt.
ELEVATION:	1200 - 1620
RELIEF:	300 +
MINOR LANDFORMS:	Series of high peaks 1200 m to 1610 m in central part of the range to 1198 m at Mt Dowling to the south
BOUNDARIES:	Lower valley slopes of the Tinderry Range both to the east and west
REFERENCES:	Costin (1954)
TOPOGRAPHIC MAPS:	Michelago 1:100 000, Cooma 1:100 000, Canberra & Melbourne 1:1 m
GEOLOGICAL MAPS:	Bega, Canberra 1:250 000, Michelago 1:100 000
OTHER SOURCES:	CZCS imagery, Atlas of Australian Soils, CSIRO Land Research Series No 24
COMMENTS:	
COMPILER:	MC, GT, Dec 1985

NAME:	BRAIDWOOD
NUMBER:	191
STYLE:	Erosional
BASIC FORM:	Undulating tableland
SOILS:	Loamy soils with yellow clayey subsoils; sandy soil with clayey yellow subsoils; red earths; solodic, soloths, yellow massive earths, podsolics (Dr2.12, 22; Db2.22; Dy 3.61, 82; Gn2.64, 24, 5, 65, 74, 75)
SOILS ASSOCIATION:	Tb27; Tb22; Ub39; Wd5; Mw13;
DESCRIPTION:	Gently undulating tableland with broad shallow valleys. Soils formed on granite, sediments and volcanics. Hilly rocky mountainous regions.
REGOLITH:	Extensive areas of deeply weathered Tertiary. Soils on truncated zones of weathered mantle. Colluvial-alluvial deposits derived from former weathered zones
GEOLOGY:	Palaeozoic basement composed of Ordovician flysh sequence. Scattered remnants of Tertiary olivine basalt. Cainozoic cover of: fluvial deposits, quartz sandstone, ferricrete, silcrete, laterite, conglomerate; aeolian, alluvial & colluvial deposits; gravels, sands, silts & clays
ELEVATION:	760 - 1000 m on the tablelands, 200 in valley floors at the edge of coastal plains and escarpment junction
RELIEF:	30 - 90 on rolling plains, 400 in dissected valleys near escarpment
MINOR LANDFORMS:	Isolated and rolling hills, rocky rises, alluvial flats, deeply dissected mountainous regions, steep escarpments, some lacustrine and undulating lowlands
BOUNDARIES:	To the south - eastern slopes of Dividing Range and eastern side of the Shoalhaven River catchment. To the west the boundary follows the watershed of the Shoalhaven River.
REFERENCES:	
TOPOGRAPHIC MAPS:	Canberra 1:1 m
GEOLOGICAL MAPS:	Bega & Canberra 1:250 000, Araluen 1;100 000
OTHER SOURCES:	CZCS imagery, Atlas of Australian Soils, CSIRO Land Research Series No 24
COMMENTS:	
COMPILER:	MC, GT, Dec 1985

NAME:	TALLAGANDA
NUMBER:	192
STYLE:	Erosional
BASIC FORM:	Hilly range
SOILS:	Red earths, Hard setting loamy soils with yellow mottled clayey subsoil; yellow earths; loams with weak horizon development; organic loamy soils; (solodized solonetz, solodic) (Dy2.42, 3.32, 3.42,3.82)
SOILS ASSOCIATION:	MW13, Tb24, Ub33, Mr1, Fa2, KK1;
DESCRIPTION:	Low hilly to rugged hilly range. Gentle to moderately steep slopes; sometimes rocky
REGOLITH:	Colluvium, resulting from frost shattering and solifluction in higher altitudes in former climatic regime. Deep weathering (100 m) with pallid zones preserved, some ferricrete and silcrete
GEOLOGY:	Lower Palaeozoic sediments and meta-sediments. Devonian granites. Cainozoic fluvial sediments: sands, silts and gravels, siltstones and sandstones.
ELEVATION:	900 - 1475
RELIEF:	200 local relief
MINOR LANDFORMS:	Ridge crests, low hilly tracts, rare tors and partly exposed corestones
BOUNDARIES:	Dividing Range and the eastern slopes to mid-slopes of parts of the Shoalhaven catchment.
REFERENCES:	Browne (1972)
TOPOGRAPHIC MAPS:	Canberra 1:1 m
GEOLOGICAL MAPS:	Canberra 1:250 000
OTHER SOURCES:	CZCS imagery, CSIRO Land Research Series No 24, Atlas of Australian Soils
COMMENTS:	
COMPILER:	MC, GT, Dec 1985

NAME:	CANBERRA
NUMBER:	193
STYLE:	Erosional
BASIC FORM:	Rollinghills
SOILS:	Loamy soils with mottled yellow clayey subsoil (Dy3.42), hard setting loamy soils with brown clayey subsoils (Db1.22,.43), loamy soils with A2 horizon (Um4.2), deep massive red earths (Gn 2.84, 61,15,11)
SOILS ASSOCIATION:	Ub31; Mu4; Qb8; Tb25
DESCRIPTION:	Stepped rolling country with scarps, hills and valleys. Some plains or very gently sloping basins
REGOLITH:	Alluvial - colluvial deposits with rare remnants of Tertiary basalt. Rare ferricrete and silcrete, Tertiary gravels, sand, silt and clay. Some deep weathering with pallid zones exposed in some cases. Up to 6m of kaolin present near Dalton.
GEOLOGY:	Folded Silurian and Devonian volcanics, sediments including limestone. Strongly folded Ordovician greywackes, slate and sandstone. Tertiary basalt, sand, silt, clay and gravels. Isolated patches of Quaternary gravel, sand, silt and clay.
ELEVATION:	500 - 1200
RELIEF:	30 - 90
MINOR LANDFORMS:	Minor plains and rolling hilly terrain.
BOUNDARIES:	Brindabella Range forms the SW boundary . Southwest facing slopes of the Crookwell River catchment to the northeast; Mt Daring and associated ridges form the western limit. The boundaries are determined by physiographic features in conjunction with CZCS imagery patterns and some influence from soil map unit boundaries
REFERENCES:	Browne (1972)
TOPOGRAPHIC MAPS:	Canberra 1:1 m
GEOLOGICAL MAPS:	Canberra & Goulburn 1:250 000
OTHER SOURCES:	CZCS imagery, Atlas of Australian Soils, Explanatory Notes for the Canberra 1:50 000 geological map (BMR), CSIRO Land Research Series No 24
COMMENTS:	
COMPILER:	MC, GT, Dec 1985

NAME:	ETTREMA
NUMBER:	194
STYLE:	Erosional
BASIC FORM:	Dissected sandstone plateau
SOILS:	Yellow leached earths (Gn2.3 & 2.7), hard setting loamy soils with mottled yellow clayey subsoils (Dy3.41), Red earths (Gn2.1), red-yellow podsolics
SOILS ASSOCIATION:	Mb5; Tb31; Tb38; Mp1
DESCRIPTION:	Dissected sandstone plateau - \terraced\ ridges with flat to hilly crests and steep slopes, scarps, canyons, rock walls, pillars, and slabs of sandstone
REGOLITH:	Silcrete on edge of landsystem at Tallong, Bungonia, Windellama and Nerriga (Callender, 1978). Some deposits associated with basalt and indicate a bauxitisation process involving the basalt. Ferricrete and silcrete also accurs along the Shoalhaven River (Young, 1978).
GEOLOGY:	Upper Devonian Yalwal Group, Permian, Triassic Sydney Basin rocks, Tertiary basalts, some granitic intrusives.
ELEVATION:	180 - 685
RELIEF:	30 - 180
MINOR LANDFORMS:	River flooodplains and associated minor landforms.
BOUNDARIES:	Generally, the watersheds of the middle Shoalhaven and Kangaroo River systems. To the south, the Budawang Range indicates the limits of the unit. In the north, Mt Carrialoo and the associated ridges form the boundaries.
REFERENCES:	Callender (1978), Young (1978), Browne (1972)
TOPOGRAPHIC MAPS:	Canberra, Sydney 1:1 m
GEOLOGICAL MAPS:	Australia 1:2.5 m
OTHER SOURCES:	CZCS imagery, Atlas of Australian Soils
COMMENTS:	
COMPILER:	MC, GT, Dec 1985

NAME:	MOSS VALE
NUMBER:	195
STYLE:	Erosional
BASIC FORM:	Flat undulating plateau
SOILS:	Brown friable earths (Gn3.21, .22), Brown calcareous earths (Gc1.12, .22), Red friable porous earths (Gn4.11), Yellow podsolics (Dy3.41), Red earths (Gn2.14)
SOILS ASSOCIATION:	Me2; Mw7; Mg19; Me1
DESCRIPTION:	Flat to undulating country with low rises, knolls and ridges, swampy depressions and valleys. Small outliers of the old basaltic plateau, isolated by dissection. Some steep slopes.
REGOLITH:	Some deep weathering exposing pallid zones. Ferricrete and silcrete rare
GEOLOGY:	Hawkesbury sandstone, Wianamatta Group, Permian sediments of the Sydney Basin. Tertiary basalt, Quaternary alluvial sediments.
ELEVATION:	700 - 750
RELIEF:	180 - 365
MINOR LANDFORMS:	Ridges with moderate to steep slopes; steep gorges and steep, wide river valley tracts. Tablelands.
BOUNDARIES:	The Great Escarpment forms the eastern limit of the unit; to the northeast, Mt Lindsay indictes the limit; the eastern slopes of Mt Penang represent the western boundary
REFERENCES:	Craft (1931)
TOPOGRAPHIC MAPS:	Sydney 1:1 m
GEOLOGICAL MAPS:	Goulburn, Wollongong 1:250 000
OTHER SOURCES:	CZCS imagery, Atlas of Australian Soils, CSIRO Land Research Series No 24
COMMENTS:	
COMPILER:	MC, GT, Dec 1985

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NAME:	SIMPSON SOUTH
NUMBER:	196
STYLE:	Depositional
BASIC FORM:	Sandplain
SOILS:	Siliceous sands (Uc1.2), grey cracking clays (Ug5.5)
SOILS ASSOCIATION:	B43, 0012
DESCRIPTION:	Aeolian dunefield (NNW trending seif dunes), with numerous claypans
REGOLITH:	Aeolian sand, fine lacustrine and alluvial deposits. Probably overlies duricrusts and weathered rock similar to that found in the Haddon unit
GEOLOGY:	Mesozoic sediments of the Eromanga Basin
ELEVATION:	0 - ?50
RELIEF:	Low
MINOR LANDFORMS:	
BOUNDARIES:	Distinguished from Simpson unit by presence of numerous claypans
REFERENCES:	Purdie (1984), Twidale (1972), Whitehouse (1963), Bowler (1976)
TOPOGRAPHIC MAPS:	
GEOLOGICAL MAPS:	Poolowanna, Pandie Pandie 1:250 000; NE South Australia 1:1m
OTHER SOURCES:	Atlas of Australian Soils
COMMENTS:	
COMPILER:	DLG, Nov 1985

NAME:	ANDREE
NUMBER:	197
STYLE:	Depositional
BASIC FORM:	Aeolian sandplain
SOILS:	Siliceous sands (Uc1.2), grey self-mulching clays (Ug5.2)
SOILS ASSOCIATION:	B51, CC 109
DESCRIPTION:	Aeolian sandplain with W to NNW trending seif dunes, and numerous claypans and alluvial areas (floodout of Cooper Creek)
REGOLITH:	Recent aeolian sand and alluvium, presumably overlying thick alluvium of the ancestral Cooper Creek, and duricrusted Tertiary Eyre Formation and older rocks.
GEOLOGY:	Cretaceous sediments of the Eromanga Basin, overlain by Cainozoic units
ELEVATION:	50?
RELIEF:	Low - (moderate?)
MINOR LANDFORMS:	
BOUNDARIES:	Aeolian units to the west, south and north do not have significant alluvial areas
REFERENCES:	
TOPOGRAPHIC MAPS:	
GEOLOGICAL MAPS:	Northwest South Australia 1:1m; Innamincka 1:250 000
OTHER SOURCES:	CZCS imagery, Atlas of Australian Soils
COMMENTS:	
COMPILER:	DLG, Nov 1985

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NAME:	STREZLECKI
NUMBER:	198
STYLE:	Depositional
BASIC FORM:	Aeolian sandplain
SOILS:	Siliceous sands (Uc1.2), grey cracking clays (Ug5.2)
SOILS ASSOCIATION:	B51
DESCRIPTION:	Aeolian sandplain with N to NNW trending seif dunes, and small areas of interdune claypans
REGOLITH:	Aeolian sand, and mud of claypans, presumably overlying old floodout deposits of Cooper Creek, and weathered Tertiary Eyre Formation
GEOLOGY:	Cretaceous sediments of the Eromanga Basin, overlain by Cainozoic units
ELEVATION:	50? - 100?
RELIEF:	Low (- moderate?)
MINOR LANDFORMS:	
BOUNDARIES:	Area of aeolian sand
REFERENCES:	
TOPOGRAPHIC MAPS:	
GEOLOGICAL MAPS:	Northwest South Australia 1:1m
OTHER SOURCES:	CZCS imagery, Atlas of Australian Soils
COMMENTS:	
COMPILER:	DLG, GT, Nov 1985

NAME:	D'AGUILAR
NUMBER:	199
STYLE:	Erosional
BASIC FORM:	Mountains
SOILS:	Various
SOILS ASSOCIATION:	Fu3 and many others
DESCRIPTION:	Mountain range
REGOLITH:	Minor only (soils, alluvium, colluvium etc)
GEOLOGY:	Palaeozoic metamorphics, Permo-Triassic volcanics intruded by Triassic granites (d'Aguilar Block, Esk Trough, and Gympie Block)
ELEVATION:	150 - 870
RELIEF:	High - very high
MINOR LANDFORMS:	
BOUNDARIES:	From Landsat imagery
REFERENCES:	
TOPOGRAPHIC MAPS:	Brisbane 1:1m
GEOLOGICAL MAPS:	Queensland 1:2.5m
OTHER SOURCES:	Landsat imagery
COMMENTS:	
COMPILER:	DLG, GT, Nov 1985

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NAME:	CADARGA
NUMBER:	200
STYLE:	Erosional
BASIC FORM:	Tableland
SOILS:	Many, including duplex soils (Dy3.43)
SOILS ASSOCIATION:	Va33 and others
DESCRIPTION:	Dissected mesas and cuestas
REGOLITH:	Minor areas of Cainozoic sand, formed by sheet erosion from topographic highs of pre-existing sediment, with deep weathering profile or ferruginous material
GEOLOGY:	Jurassic sediments of the Surat Basin
ELEVATION:	200 - 520
RELIEF:	Moderate?
MINOR LANDFORMS:	
BOUNDARIES:	Area of outcrop of Jurassic sediments
REFERENCES:	Exon (1976)
TOPOGRAPHIC MAPS:	
GEOLOGICAL MAPS:	Chinchilla 1:250 000, northern Surat Basin 1:1m
OTHER SOURCES:	Landsat imagery
COMMENTS:	
COMPILER:	DLG, Nov 1985

NAME: KOGAN
NUMBER: 201
STYLE: Erosional
BASIC FORM: Undulating
SOILS: Duplex soils (Dy3.43)
SOILS ASSOCIATION: Va24
DESCRIPTION: Undulating country
REGOLITH: Deeply weathered Jurassic to Cretaceous rocks. Day & others (1983) show undifferentiated duricrust over area
GEOLOGY: Mesozoic sediments of the Surat Basin
ELEVATION: 300? - 380
RELIEF: moderate
MINOR LANDFORMS:
BOUNDARIES: Area of deeply weathered rocks. Different Landsat and CZCS imagery response from Meandarra unit corresponds to different geology
REFERENCES: Exon & others (1970), Day & others (1983), Reiser (1971)
TOPOGRAPHIC MAPS:
GEOLOGICAL MAPS: Northern Surat Basin 1:1m
OTHER SOURCES: Landsat, CZCS imagery
COMMENTS:
COMPILER: DLG, Nov 1985

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NAME: BUNGIL
NUMBER: 202
STYLE: Erosional
BASIC FORM: Plain
SOILS: Duplex soils (Dr2.33, Db1.33, Dy3.43)
SOILS ASSOCIATION: Oc21, Ro4, Va24
DESCRIPTION: Erosional plain
REGOLITH: Tertiary fluvial sediments, apparently overlying deeply weathered bedrock in the western area, but deeply weathered with undifferentiated duricrust in the east (Day & others, 1983).
GEOLOGY: Mesozoic sediments of the Surat Basin, overlain by Cainozoic units
ELEVATION: 270 - 360
RELIEF: Low
MINOR LANDFORMS:
BOUNDARIES: Area of Tertiary sediment
REFERENCES: Reiser (1971), Exon (1971), Day & others (1983)
TOPOGRAPHIC MAPS:
GEOLOGICAL MAPS: Chinchilla, Roma 1:250 000; northern Surat Basin 1:1m
OTHER SOURCES:
COMMENTS: Regolith very poorly described in references
COMPILER: DLG, Nov 1985

NAME:	CONDAMINE
NUMBER:	203
STYLE:	Depositional
BASIC FORM:	Alluvialplain
SOILS:	Self mulching clays (Ug5.1, 5.2)
SOILS ASSOCIATION:	Kd, Kf, and CC units
DESCRIPTION:	Alluvial plain of the Condamine River
REGOLITH:	Fine alluvium, overlying the Pliocene Chinchilla sand, and un-named Oligocene-Pliocene sediments which include 'ironstone'
GEOLOGY:	Mesozoic sediments of the Surat Basin, overlain by Cainozoic units
ELEVATION:	270 - ?450
RELIEF:	Low - very low
MINOR LANDFORMS:	
BOUNDARIES:	Limit of alluvial plain
REFERENCES:	Day & others (1983), Senior (1970), Exon (1976), Woods (1960)
TOPOGRAPHIC MAPS:	
GEOLOGICAL MAPS:	Chinchilla, Dalby 1:250 000; Northern Surat Basin 1:1m
OTHER SOURCES:	Atlas of Australian Soils, CZCS imagery
COMMENTS:	
COMPILER:	DLG, Nov 1985

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NAME:	FORTESCUE
NUMBER:	204
STYLE:	Depositional
BASIC FORM:	Major river valley
SOILS:	Earthy clays
SOILS ASSOCIATION:	J91
DESCRIPTION:	Major river valley
REGOLITH:	Alluvium, calcrete, sand
GEOLOGY:	Quaternary alluvium, some Tertiary, possibly some Cretaceous (Hammersly Basin)
ELEVATION:	Average 300 m
RELIEF:	10 m
MINOR LANDFORMS:	Valleyplains
BOUNDARIES:	Bounded by higher ground
REFERENCES:	
TOPOGRAPHIC MAPS:	1:5 m Relief Map of Australia
GEOLOGICAL MAPS:	Australia 1:2.5 m & 1: 5 m; 1:250 000 Geological Series
OTHER SOURCES:	1:5 m Landforms and Relief Map of Australia; 1:1 m Vegetation Survey of WA; Sheet 6 & 10NW Atlas of Australian Soils; Vegetation Survey WA 1:1 m
COMMENTS:	
COMPILER:	GWD'A, Nov, 1985

NAME:	QUEENSTOWN
NUMBER:	205
STYLE:	Erosional
BASIC FORM:	Mountains
SOILS:	Shallow sands, peat, yellow earths
SOILS ASSOCIATION:	Mf3
DESCRIPTION:	Mountains and hills. Less rugged than Pedder unit. Erosion surfaces widespread as plateaux in north
REGOLITH:	Scree, bare rock, thin soil, glacial and periglacial features
GEOLOGY:	Palaeozoic rocks of varied lithology; Devonian granites;Precambrian rocks in northwest
ELEVATION:	Peaks to 1000, average 400
RELIEF:	100
MINOR LANDFORMS:	Valleys, periglacial features, plateaux
BOUNDARIES:	Geological to east, physiographic to lowlands to east. Vague boundary to north to basalt dominated unit
REFERENCES:	
TOPOGRAPHIC MAPS:	Queenstown, Burnie, Port Davey 1:250 000; Arthur River 1:100 000
GEOLOGICAL MAPS:	Queenstown 1:250 000; Geology of Tasmania 1:500 000
OTHER SOURCES:	
COMMENTS:	
COMPILER:	CO, Nov 1985

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NAME:	HAMPSHIRE
NUMBER:	206
STYLE:	Volcanics
BASIC FORM:	Plain, plateau and hill
SOILS:	Red earths
SOILS ASSOCIATION:	Mh1, Mg10,12
DESCRIPTION:	Basalt plains and plateaux
REGOLITH:	Deep weathered (3m) basalt over bedrock. Varied on other rocks
GEOLOGY:	Tertiary basalt over Palaeozoic rocks. Generally skeletal or sandy soil on non basalt rocks
ELEVATION:	To 300
RELIEF:	60
MINOR LANDFORMS:	Hills and valleys on non-volcanic rocks
BOUNDARIES:	Generalised to include major basalt area, but includes considerable areas of other rocks
REFERENCES:	Sutherland (1971)
TOPOGRAPHIC MAPS:	Bernie 1:250 000
GEOLOGICAL MAPS:	Geology of Tasmania 1:500 000
OTHER SOURCES:	
COMMENTS:	
COMPILER:	CO, Nov 1985

NAME: FORTH
NUMBER: 207
STYLE: Erosional
BASIC FORM: Hills
SOILS: Earths, sandy soils, skeletal soils
SOILS ASSOCIATION: Mh1, Mf1, JJ3
DESCRIPTION: Complex of irregular fluvial topography
REGOLITH: Variable; hillside creep
GEOLOGY: Complex of Precambrian to Recent rocks, with many small patches of different rock. Includes small dolerite and basalt areas
ELEVATION: 0 - 1000
RELIEF: 100
MINOR LANDFORMS: Plateaux, terraces
BOUNDARIES: Poorly defined; essentially a complex area left after more distinct units were defined
REFERENCES:
TOPOGRAPHIC MAPS: Tamar, Forth 1:100 000
GEOLOGICAL MAPS: Geology of Tasmania 1:500 000
OTHER SOURCES:
COMMENTS:
COMPILER: CO, Nov 1985

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NAME: LONGFORD
NUMBER: 208
STYLE: Erosional/depositional
BASIC FORM: Valleyplain
SOILS: Very varied
SOILS ASSOCIATION: Re1, Wo1
DESCRIPTION: River plains of the Midland Valley (graben)
REGOLITH: Varied alluvium; varied Tertiary sediments (nonmarine mostly)
GEOLOGY: Tertiary sediments, veneer of Quaternary glacial and alluvial deposits
ELEVATION: 200
RELIEF: 20
MINOR LANDFORMS: High mesas (outliers of dolerite), basalt mesas, terraces
BOUNDARIES: Essentially geological, but topographically clear
REFERENCES:
TOPOGRAPHIC MAPS: South Esk 1:100 000
GEOLOGICAL MAPS: Geology of Tasmania 1:500 000; Launceston, Oatlands 1:250 000
OTHER SOURCES:
COMMENTS:
COMPILER: CO, Nov 1985

NAME:	EUDAMULLAH
NUMBER:	209
STYLE:	Erosional
BASIC FORM:	Dissected pediplains, low stony ridges, alluvial plains, sand dun
SOILS:	Alkaline red soils
SOILS ASSOCIATION:	OC54,55,44,45,46, AB15 (minor)
DESCRIPTION:	Pediplains, steep slopes, stony ridges
REGOLITH:	Stony ridges, breakaways and mesas, dissected pediments
GEOLOGY:	Proterozoic metamorphosed sedimentary and volcanic rocks, Proterozoic granite (Gascoyne Province), Permian sedimentary rocks, Cretaceous sediments (Carnarvon Basin)
ELEVATION:	Average 150-300 m
RELIEF:	30-100 m
MINOR LANDFORMS:	Dissected pediments, sand dunes
BOUNDARIES:	Coastal plains to the north and west, steep ranges to the east, and less rugged country to the south
REFERENCES:	
TOPOGRAPHIC MAPS:	1:5 m Relief Map of Australia
GEOLOGICAL MAPS:	Australia 1:2.5 m, 1:5 m; 1:250 000 Series
OTHER SOURCES:	1:5 m Landform and Relief Map of Australia; 1:1 m Vegetation Survey of WA; Sheet 6 Atlas of Australian Soils
COMMENTS:	
COMPILER:	GWD'A, Nov 1985

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NAME:	WELCOME
NUMBER:	210
STYLE:	Erosional/depositional
BASIC FORM:	Coastal lowland
SOILS:	Sands, peat
SOILS ASSOCIATION:	JJ5, Cb17, Tb10
DESCRIPTION:	Coastal peneplain, with coastal deposition dominant in some places. Dunes
REGOLITH:	Shallow surficial sands; occasional peat, rock outcrops
GEOLOGY:	Lower Palaeozoic rocks veneered by young sands. Some Tertiary to recent sandy deposits
ELEVATION:	100
RELIEF:	Mostly 20
MINOR LANDFORMS:	Inliers of old rocks, with some structural control. Coastal depositional landforms, including huge dunes in places
BOUNDARIES:	Based on physiography
REFERENCES:	
TOPOGRAPHIC MAPS:	Welcome 1:100 000
GEOLOGICAL MAPS:	
OTHER SOURCES:	
COMMENTS:	
COMPILER:	CO, Nov 1985

NAME: WELD
NUMBER: 211
STYLE: Erosional
BASIC FORM: Mountains
SOILS: Podsols, duplex deep earths
SOILS ASSOCIATION: K11, Mh2
DESCRIPTION: Hilly to mountainous terrain. Some plateaux. Often intricate dissection
REGOLITH: Rocky slopes, patches of deep weathering on granites. Some deep friable soils
GEOLOGY: Lower Palaeozoic greywacke etc., granites and granodiorite
ELEVATION: 500, major mountains 1000
RELIEF: 200
MINOR LANDFORMS: Scree, boulder fields, periglacial features, slumps. Minor basalt or dolerite capped mesas
BOUNDARIES: Geological boundary to dolerite in southwest well marked
REFERENCES: Caine (1983)
TOPOGRAPHIC MAPS: Launceston 1:250 000; Georges 1:100 000
GEOLOGICAL MAPS: Geology of Tasmania 1:500 000; Launceston 1:250 000
OTHER SOURCES: Caine (1983)
COMMENTS:
COMPILER: CO, Nov 1985

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NAME: TOM PRICE
NUMBER: 212
STYLE: Erosional
BASIC FORM: Steep hills and ranges
SOILS: Stony and shallow soils
SOILS ASSOCIATION: Fa15, F41
DESCRIPTION: Ranges, steep hills, dissected pediments, narrow winding valleys
REGOLITH: Shallow stony soil and bare rocks
GEOLOGY: Proterozoic sandstone, Archaean basic volcanics, dolomite, minor Archaean granite; banded iron formation (Hammersley Basin, Ashburton Trough)
ELEVATION: Average 600 m
RELIEF: Mainly below 400 m
MINOR LANDFORMS:
BOUNDARIES: Surrounded by pediments, alluvial flats and ridges; major river valley to the north
REFERENCES:
TOPOGRAPHIC MAPS: 1:5 m Relief Map of Australia
GEOLOGICAL MAPS: Australia 1:2.5 m, 1:5 m; 1:250 000 series
OTHER SOURCES: 1:5 m Landform and Relief Map of Australia; 1:1 m Vegetation Survey of WA; Sheet 6 Atlas of Australian soils
COMMENTS:
COMPILER: GWD'A, Nov, 1985

NAME: PEDDER
NUMBER: 213
STYLE: Erosional
BASIC FORM: Mountain ridges
SOILS: Shallow sands, peat
SOILS ASSOCIATION: Cb25
DESCRIPTION: Rugged mountains; strike ridges on Precambrian metamorphics. Trellis drainage
REGOLITH: Shallow profiles to bedrock. Sandy on siliceous p.m. Many rock outcrops
GEOLOGY: Precambrian metamorphics. Patches of Palaeozoic rocks
ELEVATION: Peaks over 1000
RELIEF: Often 200 +
MINOR LANDFORMS: Lakes, gorges, periglacial features
BOUNDARIES: Essentially geological, the main area of Precambrian rocks
REFERENCES:
TOPOGRAPHIC MAPS: Port Davey, Queenstown 1:250 000; Olga 1:100 000
GEOLOGICAL MAPS: Geology of Tasmania 1:500 000; Port Davey, Queenstown 1:250 000
OTHER SOURCES: Atlas of Australian soils
COMMENTS:
COMPILER: CO, Nov 1985

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NAME: LAKES PLATEAU
NUMBER: 214
STYLE: Erosional
BASIC FORM: Glaciated plateau
SOILS: Lithosol/peat
SOILS ASSOCIATION: KL3
DESCRIPTION: Dolerite plateau, glaciated, with many small lakes
REGOLITH: Bare rock, glacial deposits, moraines etc
GEOLOGY: Jurassic dolerite
ELEVATION: 1200
RELIEF: 40
MINOR LANDFORMS: glacial features, lake features
BOUNDARIES: Essentially physiographic. Big scarp to north and west. No little lakes to east
REFERENCES:
TOPOGRAPHIC MAPS: Mersey 1:100 000; Queenstown 1:250 000
GEOLOGICAL MAPS: Geology of Tasmania 1:500 000; Queenstown 1:250 000; Geological map of Tasmania 1:506 880 (Geol. Soc. of Aust.)
OTHER SOURCES: Journal of the Geological Society of Australia, vol, 9 pt 2
COMMENTS:
COMPILER: CO, Nov 1985

NAME:	LOMOND
NUMBER:	215
STYLE:	Erosional
BASIC FORM:	Plateau
SOILS:	Lithosol/peat
SOILS ASSOCIATION:	K12,3
DESCRIPTION:	Plateau, modified in part by glacial and periglacial action
REGOLITH:	Bare rock, scree, glacial and periglacial deposits (moraines, blockfields)
GEOLOGY:	Jurassic dolerite
ELEVATION:	1200
RELIEF:	60 on plateau, scarps 700
MINOR LANDFORMS:	Lakes and related features; isolated hills
BOUNDARIES:	Clear scarp to north; many small lakes to west. Patches of Triassic in unit to south. Boundaries with Midland Valley unit are physiographic
REFERENCES:	Caine (1983), Derbyshire (1965), Davies (1965)
TOPOGRAPHIC MAPS:	Meander 1:100 000
GEOLOGICAL MAPS:	Geology of Tasmania 1:500 000; Oatlands, Launceston, Queenstown 1:250 000
OTHER SOURCES:	
COMMENTS:	
COMPILER:	CO, Nov 1985

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NAME:	OATLANDS
NUMBER:	216
STYLE:	Erosional
BASIC FORM:	Mountain, plateau, and valley
SOILS:	Red friable soils on dolerite, duplex soils on Triassic rocks
SOILS ASSOCIATION:	Re1, Wd3,4
DESCRIPTION:	Mountains and plateau remnants. Open drainage with some major valleys
REGOLITH:	Shallow rock debris to deep weathered profiles (3m+). Periglacial blockfields in high country. Alluvium in main valleys
GEOLOGY:	50% of area Jurassic dolerite; 50% Parmeener Subgroup sediments, mainly Triassic sandstone
ELEVATION:	500 - 800
RELIEF:	200 - 300
MINOR LANDFORMS:	Strike ridges, mesas, periglacial forms
BOUNDARIES:	Geological. Solid dolerite to the north (and south end of Midland Valley). Strike ridges on Precambrian rocks to west
REFERENCES:	
TOPOGRAPHIC MAPS:	Hobart, OAtlands, Launceston 1:250 000; Derwent 1:500 000
GEOLOGICAL MAPS:	Geology of Tasmania 1:500 000
OTHER SOURCES:	
COMMENTS:	
COMPILER:	CO, Nov, 1985

NAME:	ALBERGA
NUMBER:	217
STYLE:	Depositional
BASIC FORM:	Dunefield
SOILS:	Siliceous sands (Uc1.2)
SOILS ASSOCIATION:	B54,55
DESCRIPTION:	Dune fields of large longitudinal sand dunes and interdune plains in the north, and confused sand dune country with small claypans in the south
REGOLITH:	Aeolian sand, minor alluvium, colluvium, and lacustrine sediments
GEOLOGY:	Cretaceous sediments of the Eromanga Basin, overlain by Cainozoic deposits
ELEVATION:	300 m average
RELIEF:	Less than 6 m
MINOR LANDFORMS:	
BOUNDARIES:	Area of aeolian sand
REFERENCES:	Laut & others (1977)
TOPOGRAPHIC MAPS:	Oodnadatta 1:1 m
GEOLOGICAL MAPS:	Australia 1:2.5 m
OTHER SOURCES:	CZCS imagery
COMMENTS:	
COMPILER:	GT, MC, DLG, Jan 1986

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NAME:	BULLOO DOWNS
NUMBER:	218
STYLE:	Erosional
BASIC FORM:	Pediments, ridges, alluvial flats and narrow plains
SOILS:	Alkaline red soils, shallow stony soils on steeper slopes, surface cover of gravels over hardpan, shallow earthy loams
SOILS ASSOCIATION:	Oc48, BE6
DESCRIPTION:	Partly dissected pediments, low stony ridges, narrow zones of streams
REGOLITH:	Partly dissected pediments and breakaways capped by red-brown hardpan, calcrete
GEOLOGY:	Fine-grained Proterozoic sediments, Archaean granite, basic igneous rocks (Sylvania Dome, Bangemall Basin)
ELEVATION:	Average 300 m
RELIEF:	From 10 m to 100 m
MINOR LANDFORMS:	Alluvial flats, narrow plains upstream
BOUNDARIES:	Surrounded by steep hills and ranges
REFERENCES:	
TOPOGRAPHIC MAPS:	1:5 m Relief Map of Australia
GEOLOGICAL MAPS:	1:2.5 m, 1:5 m Australia; 1:250 000 series
OTHER SOURCES:	1:5 m Landforms and Relief Map of Australia; 1:1 m Vegetation Survey of WA; Sheet 6 Atlas of Australian Soils
COMMENTS:	
COMPILER:	GWD'A, Nov, 1985

NAME:	ULLAWARRA
NUMBER:	219
STYLE:	Erosional
BASIC FORM:	Stony hills, bare rocks, steep ranges
SOILS:	Stony sands, alkaline red soils, shallow soils, loams with clays
SOILS ASSOCIATION:	AA9, Fa8, OC49, F41
DESCRIPTION:	Steep ranges, dissected pediments, narrow valley plains
REGOLITH:	Bare rocks, stony earthy loams on steep slopes, narrow valleys; red-brown hardpan on lower slopes and on small areas of valley plains
GEOLOGY:	Gneiss, fine grained sedimentary rocks, basic dykes, dolomite and sandstone (Bangemwall Basin)
ELEVATION:	Average 400-500 m
RELIEF:	Up to 400 m
MINOR LANDFORMS:	Valleyplains
BOUNDARIES:	Less rugged country to the west, south and east; costal plains
REFERENCES:	
TOPOGRAPHIC MAPS:	1:5 m Relief Map of Australia
GEOLOGICAL MAPS:	1:2.5 m, 1:5 m Australia; 1:250 000 Geological Series
OTHER SOURCES:	1:5 m Landforms and Relief Map of Australia; 1:1 m Vegetation Survey of WA; Sheet 6 Atlas of Australian Soils
COMMENTS:	
COMPILER:	GWD'A, Nov, 1985

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NAME:	MILGUM
NUMBER:	220
STYLE:	Erosional (minor depositional)
BASIC FORM:	Steep ranges, hills and ridges
SOILS:	Stony loams, dissected pediments, shallow stony soils
SOILS ASSOCIATION:	FA8, OC49
DESCRIPTION:	Hills and ridges, dissected plateaus, some plains
REGOLITH:	Extensive areas without soil cover; hardpans on lower slopes; scattered surface gravels on rocks
GEOLOGY:	Basic dykes, Proterozoic sedimentary rock, Archaean granite, Archaen metamorphosed sediments and volcanics (Bangemall Basin, Gascoyne Province)
ELEVATION:	Average 300-600 m
RELIEF:	From 30 to 100 m
MINOR LANDFORMS:	Alluvialplains
BOUNDARIES:	Less rugged to the west, south and east
REFERENCES:	
TOPOGRAPHIC MAPS:	1:5 m Relief Map of Australia
GEOLOGICAL MAPS:	1:2.5 m, 1:5 m Australia; 1:250 000 Series
OTHER SOURCES:	1:5 m Landform and Relief Map of Australia; 1:1 m Vegetation Survey of WA; Sheet 6 Atlas of Australian Soils
COMMENTS:	
COMPILER:	GWD'A, Nov, 1985

NAME:	GIBSON
NUMBER:	221
STYLE:	Erosional
BASIC FORM:	Gibber plain
SOILS:	Ironstone gravel with sandy matrix, shallow earthy loams, shallow loams in palaeodrainage channels
SOILS ASSOCIATION:	AY1,2,3, BE12, BY6, SV10
DESCRIPTION:	Gibber strewn plain with few sand dunes, traversed by palaeodrainage channels; low hills, plateaus and breakaways
REGOLITH:	Surface gibber lag; ferruginous and siliceous duricrust, residual sand and alluvium in palaeodrainages, minor aeolian sand. Underlying rocks are deeply weathered
GEOLOGY:	Palaeozoic and Cretaceous sediments of the Canning and Officer Basin, capped with duricrust and sand
ELEVATION:	400 - 500 m
RELIEF:	Low
MINOR LANDFORMS:	
BOUNDARIES:	Surrounded mainly by sand plains
REFERENCES:	Jackson & van de Graaff (1981)
TOPOGRAPHIC MAPS:	Australia 1:2.5 m
GEOLOGICAL MAPS:	Canning Basin, Officer Basin 1:1m
OTHER SOURCES:	Atlas of Australian Soils, Officer Basin Geomorphology 1:1m (Jackson & van de Graaff, 1981)
COMMENTS:	
COMPILER:	DLG, Jan 1986

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NAME:	ZANTHUS
NUMBER:	222
STYLE:	Erosional/Depositional
BASIC FORM:	Low dissected plateaus
SOILS:	Brown and grey-brown calcareous earths, siliceous sand on lunettes alkaline red earths
SOILS ASSOCIATION:	DD14, DD34, Mx43
DESCRIPTION:	Undulating plains with small valleys broken by low narrow rocky hills and ridges
REGOLITH:	Shallow red earths, siliceous sand, silcrete blocks or fragments, some breakaways
GEOLOGY:	Basic intrusive rocks, metamorphosed, igneous and minor sedimentary rocks, some granite (Albany-Fraser Province)
ELEVATION:	Average 150 m
RELIEF:	Less than 30 m
MINOR LANDFORMS:	Tors, bosses, small valleys, clay pans, salt lakes with dunes and lunettes, gilgais, pediments
BOUNDARIES:	Limestone of Eucla Basin to the east, coastal plains to the south and to the west, similar to Kalgoorlie unit
REFERENCES:	
TOPOGRAPHIC MAPS:	1:5 m Relief Map of Australia
GEOLOGICAL MAPS:	Australia 1:2.5 m, 1:5 m; 1:250 000 Series
OTHER SOURCES:	1:5 m Landforms and Relief Map of Australia; 1:1 m Vegetation Survey of WA; Sheet 5 Atlas of Australian Soils
COMMENTS:	
COMPILER:	GWD'A, Nov 1985

NAME:	ESPERANCE
NUMBER:	223
STYLE:	Depositional/erosional
BASIC FORM:	Coastal plains and undissected plateaus
SOILS:	Sandy mottled soils, calcareous loams, ironstone gravels, coastal low dunes, swamps and lakes
SOILS ASSOCIATION:	Xd, BB6, Ya32, Va67,68, C21, A15, B25, Ca25
DESCRIPTION:	Undulating plains or plateaus at low elevation with small granitic tors and bosses
REGOLITH:	Red earths around the granitic bosses and tors, plains underlain by calcrete at shallow depth (about 3 cm), ironstone gravels, indurated lateritic red substrata
GEOLOGY:	Archaean granite, Proterozoic granite, Proterozoic metamorphic igneous and minor sedimentary rocks (Albany-Fraser Province, Bremer Basin)
ELEVATION:	Average up to 150 m
RELIEF:	Less than 30 m (up to 30 m in places)
MINOR LANDFORMS:	Low dunes, undulating to hilly ridges and slope topography with flat to gently sloping crests to the ridges, stream valleys, broken terrain with
BOUNDARIES:	Low dissected plateaus to the north and west, limestone plains to the east
REFERENCES:	
TOPOGRAPHIC MAPS:	1:5 m Relief Map of Australia
GEOLOGICAL MAPS:	Australia 1:2.5 m, 1:5 m; 1:250 000 Series
OTHER SOURCES:	1:5 m Landforms and Relief map of Australia; 1:1 m Vegetation Survey of WA
COMMENTS:	Sheet 5 Atlas of Australian Soils
COMPILER:	GWD'A, Nov, 1985

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NAME:	LAKE HOPE
NUMBER:	224
STYLE:	Erosional and depositional
BASIC FORM:	Plateaus with scattered hills and broad valleys
SOILS:	yellow earths
SOILS ASSOCIATION:	AC1, Mx43, SI30
DESCRIPTION:	Low hills and ridges, undulating terrains, plains
REGOLITH:	Deep weathering profiles on bedrocks and superficial materials
GEOLOGY:	Archaean metamorphics with granite and greenstone (Yilgarn Block)
ELEVATION:	Average 300
RELIEF:	From 30 to 100 m
MINOR LANDFORMS:	Tors, mesas, playas, saline valleys with salt lakes, minor dunes around lakes and in river valleys, some gypsum
BOUNDARIES:	Distinguished from the Kalgoorlie unit by being more rugged
REFERENCES:	
TOPOGRAPHIC MAPS:	1:5 m Relief Map of Australia
GEOLOGICAL MAPS:	1:250 000 Series Maps; Australia 1:2.5 m and 1:5 m
OTHER SOURCES:	1:5 m Landform and Relief Map of Australia, 1:1 m Vegetation Map of WA, Atlas of Australian Soils Sheet 5
COMMENTS:	
COMPILER:	GWD'A, Nov 1985

NAME:	KALGOORLIE
NUMBER:	225
STYLE:	Erosional
BASIC FORM:	Plateaus
SOILS:	Dominantly red and yellow mottled with ferricrete duricrust
SOILS ASSOCIATION:	Va66, SV1 (Tertiary filled valleys)
DESCRIPTION:	Rolling to hilly terrain with broad valleys filled by Tertiary sediments and playas
REGOLITH:	Deep weathering profiles, on bedrocks and superficial deposits
GEOLOGY:	Precambrian granite, some metamorphics, greenstone belts (Yilgarn Block)
ELEVATION:	Average 300
RELIEF:	Less than 30 m
MINOR LANDFORMS:	Tors, mesas, playas, saline valleys with salt lakes, minor dunes, some gypsum
BOUNDARIES:	Distinguished by broad valleys bounded by low hills and ridges
REFERENCES:	
TOPOGRAPHIC MAPS:	1:5 m Relief Map of Australia
GEOLOGICAL MAPS:	1:250 000 Series Maps; Australia 1:2.5 m and 1:5 m
OTHER SOURCES:	1:5 m Lantform and Relief Map of Australia, 1:1 m Vegetation Map of WA, Sheet 5, Atlas of Australian Soils
COMMENTS:	
COMPILER:	GWD'A, Dec 1985

NAME:	GLOUCESTER
NUMBER:	226
STYLE:	Erosional
BASIC FORM:	Dissected plateau flank
SOILS:	Lithosols. Loamy soils. Red earths. Friable red earths (Um 4.2; Dy 3.21, 3.41; Gn 2.14)
SOILS ASSOCIATION:	LL4; Mw6,2,1; Mj3; LL3
DESCRIPTION:	Plateau flank dissected into narrow strike ridges and valleys, with 'outliers' of basalt - capped rises at lower altitudes than main plateau basalts
REGOLITH:	Alluvium, colluvium: sand, silt, gravel and clay. Weathered Palaeozoic sediments and granites producing kaolin rich soil and grus. Red and dark brown plastic, clay rich soils derived from weathed basic volcanics
GEOLOGY:	Ordovician-Devonian slate, schist, phyllite,sandstone, chert, phyllite, conglomerate, siltstone. Lower Devonian sandstone, siltstone, shale. Upper Devonian - Lower Carboniferous sandstone, siltstone, shale, chert, limestone, phyllite, schist. Upper Carboniferous sandstone, siltstone, mudstone, acid volcanics. Permian sandstone, siltstone, mudstone, tillite, limestone, acid, intermediate, and minor basic volcanics, ultramfic intrusives, granites. Triassic sandstone, siltstone, mudstone, granites. Tertiary basalts, minor acid volcanics
ELEVATION:	200-1550 m
RELIEF:	50-500 m
MINOR LANDFORMS:	Moderate to steep sided valleys of foothills at base of Great Escarpment. River Terraces and floodplain landforms approaching coastal plain. Basalt capped hills. Colluvial fans in steeper upper reaches
BOUNDARIES:	Top of Great Escarpment to the west; Coastal plain and lowland slopes of Escarpment to the east. Dorrigo Plateau - Great Escarpment to the north. Parts of Mt Royal Range to the south. Physiogrpahic units and soil map units are major boundary determinants
REFERENCES:	Pain (1983), Ollier (982)
TOPOGRAPHIC MAPS:	Armidale 1:1 m
GEOLOGICAL MAPS:	Newcastle, Hastings 1:250 000, Australia 1:2.5 m
OTHER SOURCES:	CZCS imagery, Atlas of Australian Soils
COMMENTS:	
COMPILER:	MC, GT, Jan 1986

NAME:	WALLABADAH
NUMBER:	227
STYLE:	Erosional
BASIC FORM:	Dissected plateau flank
SOILS:	Dark friable earths. Red earths. Red friable porous earths. Loamy soils with A2 horizons
SOILS ASSOCIATION:	Mm1; Mw6,2; Mg20; LK1
DESCRIPTION:	Dissected plateau flank. Flank composed of steep to very steep hills and ridges with narrow steep sided valleys. Plateau surface capped by basalt. Basalt capped outliers detatched from general elevation of Escarpment.
REGOLITH:	Thin soils in higher reaches of valleys and along ridge tops, Weathered Palaeozoic sediments yielding kaolinitic soils, thicker colluvial mantles at foot of steep sided valleys and minor terraces. Alluvial deposits in wider channels
GEOLOGY:	Ordovician-Silurian slate, siltstone, chert, phyllite, sandstone, conglomerate. Ordovician-Devonian sandstone, mudstone, schist, phyllite. Upper Devonian and Lower Carboniferous sandstone, siltstone, shale, chert, limestone, phyllite, schist. Upper Carboniferous sandstone, siltstone, mudstone. Lower Devonian sandstone, siltstone, shale. Permian sandstone, mudstone, tillite, limestone, acid, intermediate and minor basic volcanics, granites
ELEVATION:	1000-1440 m
RELIEF:	3000 m
MINOR LANDFORMS:	Minor tributary valleys, plateaux, elongated ridges. Minor river terraces, landslips and scars
BOUNDARIES:	Isis-Hunter Rivers and Great Escarpment to the southeast. Peel River to the northwest. Junction of Liverpool and Great Dividing Range to the southwest. Soil map units in part; Physiography units underlying basis of boundaries
REFERENCES:	Pain (1983)
TOPOGRAPHIC MAPS:	Armidale 1:1 m
GEOLOGICAL MAPS:	Australia 1:2.5 m
OTHER SOURCES:	CZCS imagery, Atlas of Australian Soils
COMMENTS:	
COMPILER:	MC, GT, Jan 1986

NAME:	GOULBURN RIVER
NUMBER:	228
STYLE:	Erosional
BASIC FORM:	Plateaux and ridges cut by steep-sided valleys
SOILS:	Yellow leached earths and yellow earths; hard setting loams with mottled yellow clayey subsoil (Gn 2.34 & .74 & .21, Dy 3.42)
SOILS ASSOCIATION:	Mb2; Ub49; MSi
DESCRIPTION:	32 km wide tract of land along the Goulburn River with irregular plateaux and ridges broken by steep-sided valleys 90 - 150 m deep. Where sandstone is resistant, gorges are formed; less resistant Permian rocks form wide valleys with undulating lowlands, fringed by steep escarpments.
REGOLITH:	Relics of old leached soils ('bole') under basalt flows; alluvial terraces; highly weathered ancient terraces represented by some patches of high level gravels. Gritty clays associated with minor acid intrusives. Cracking clays, plastic red clays, some black clays associated with weathered basic volcanics; colluvial fans
GEOLOGY:	Triassic sandstone forms plateaux and ridges; some capped by basalt. Undulating lowlands on less resistant Permian rocks.
ELEVATION:	30 - 460
RELIEF:	90 - 150 m deep valleys cut in plateaux and ridges.
MINOR LANDFORMS:	Small area of low, rocky granite hills and broad open valleys south of Ulan, minor landslip features on steeper slopes; alluvial terraces; colluvial fans.
BOUNDARIES:	Liverpool Range to the north; Cudgegong Valley to the south
REFERENCES:	Dulhunty (1937).
TOPOGRAPHIC MAPS:	Sydney, Canberra 1:1 m
GEOLOGICAL MAPS:	Singleton, Tamworth, Dubbo, Gilgandra 1:250 000
OTHER SOURCES:	CZCS imagery, CSIRO Land Research Series No 8, Atlas of Australian Soils
COMMENTS:	
COMPILER:	MC, GT, Dec 1985

NAME:	LIVERPOOL
NUMBER:	229
STYLE:	Volcanics
BASIC FORM:	Basalt plateau & mountain range
SOILS:	Deep black to dark cracking clays, sometimes stony, clayey, humic skeletal soils; some alpine humus soil (Ug5, Gn3.42)
SOILS ASSOCIATION:	Kb2; Mm1
DESCRIPTION:	A large area of Tertiary basalt. The system divides into the Liverpool Range and the Merriwa Plateau. The Liverpool Range is a semi arcuate narrow rugged mountain range. The Merriwa plateau is a plateau of rocky hills and open valleys cut by 90 m deep parallel south flowing streams.
REGOLITH:	Relics of leached soils between basalt flows ('bole'); alluvial terraces; weathered ancient terraces; red and black cracking days. Colluvial fans. Alluvial sand silt clay and gravel.
GEOLOGY:	Tertiary Basalt. Triassic sandstone, siltstone, mudstone; Jurassic sandstone, siltstone, mudstone; Tertiary alkali intrusives
ELEVATION:	Liverpool Range to 1220 m, Merriwa plateau 300 - 475 m
RELIEF:	Merriwa plateau 150 m
MINOR LANDFORMS:	Structural benches; minor landslip features; river terraces; alluvial flats, colluvial fans.
BOUNDARIES:	Delineated in areal extent by the basalt of the Liverpool Ranges. Breeza plains to north; midslopes of Goulburn River to south.
REFERENCES:	Dulhunty (1937).
TOPOGRAPHIC MAPS:	Armidale, Bourke 1:1 m
GEOLOGICAL MAPS:	Tamworth, Gilgandra 1:250 000; Aust 1:2.5 m
OTHER SOURCES:	CZCS imagery, CSIRO Land Research Series No 8, Atlas of Australian Soils
COMMENTS:	
COMPILER:	GT, MC, Jan 1986

NAME:	SPRING RIDGE
NUMBER:	230
STYLE:	Volcanics
BASIC FORM:	Undulating hills
SOILS:	Yellow earths; Red friable Earths; Cracking clays; Hardsetting loamy soils with red clayey subsoil
SOILS ASSOCIATION:	Ms1; Mo5, Ob16; Kd1.
DESCRIPTION:	Flat plain with occasional NW trending ridges and undulating hills. Becoming more hilly to west towards Wurrumbungle Range.
REGOLITH:	Isolated Tertiary fluvial gravels. Alluvial deposits: black soils, sands, sand loam and clays; Depths of 60 m
GEOLOGY:	Permian sandstone, siltstone, mudstone, tillite, limestone; Triassic siltstone, mudstone; Jurassic volcanics - intermediate and basic; Tertiary basalt and minor acid volcanics, and coal. Cainozoic alluvial, colluvial lacustrine, and marine sand, silts and clays.
ELEVATION:	500-850
RELIEF:	50-350
MINOR LANDFORMS:	Flat plains, minor flood plains and natural levees; lowland swamps on plains; steeper slopes and mountains
BOUNDARIES:	Warrumbungle Range to the west. Liverpool Range to the south. Extensions of and isolated hills of the Nandewar Range to the north. Great Divide and Escarpment to the east.
REFERENCES:	Kenny (1964)
TOPOGRAPHIC MAPS:	Armidale, Bourke 1:1 m
GEOLOGICAL MAPS:	Australia 1:2.5 m
OTHER SOURCES:	CZCS imagery, Atlas of Australian Soils
COMMENTS:	
COMPILER:	MC, GT, Dec 1985

NAME:	TAMWORTH
NUMBER:	231
STYLE:	Erosional
BASIC FORM:	Tableland
SOILS:	Chocolate prairie soils, red brown earths. Minor black earths. Hard setting loamy soils with red, brown clayey subsoils; friable loams (Dr 2, Db 1.22)
SOILS ASSOCIATION:	Qb21,17, Ra5, Gb12,14
DESCRIPTION:	Gently undulating tableland with shallow open valleys.
REGOLITH:	Tertiary transported clay deposits (Barraba and south Barraba), red and black plastic and cracking clays. Poor quality 'potch' opal; rare precious opal, agates and chalcedony. Alluvium: sand, silt, clay, gravel; colluvial deposits.
GEOLOGY:	Paleozoic Basement - greywackes, cherts, volcanics, sandstones. Minor Tertiary basalt. Ultramafic intrusives (Permian), acid and intermediate with minor basic volcanics
ELEVATION:	300 - 1000
RELIEF:	6 - 365
MINOR LANDFORMS:	Volcanic plugs; mesas; buttes; talus slopes; structural benches, planeze forms. Floodplains and associated minor landforms.
BOUNDARIES:	Crawney Mountain to the south; Mastermans Range to the north; Nandewar Mountains to the west; Nandewar Range to the east.
REFERENCES:	Baker & Uren (1982), Jensen (1907)
TOPOGRAPHIC MAPS:	Armidale 1:1 m
GEOLOGICAL MAPS:	Tamworth, Manilla 1:250 000
OTHER SOURCES:	CZCS imagery, NSW Premiers Dep: Preliminary Survey of Resources, New England Region. New England Atlas. Atlas of Australian Soils
COMMENTS:	Diamonds in deep leads near Bullawa Creek
COMPILER:	GT, MC, Dec 1985

NAME:	TAMWORTH
NUMBER:	231
STYLE:	Erosional
BASIC FORM:	Tableland
SOILS:	Chocolate prairie soils, red brown earths. Minor black earths. Hard setting loamy soils with red, brown clayey subsoils; friable loams (Dr 2, Db 1.22)
SOILS ASSOCIATION:	Qb21,17, Ra5, Gb12,14
DESCRIPTION:	Gently undulating tableland with shallow open valleys.
REGOLITH:	Tertiary transported clay deposits (Barraba and south Barraba), red and black plastic and cracking clays. Poor quality 'potch' opal; rare precious opal, agates and chalcedony. Alluvium: sand, silt, clay, gravel; colluvial deposits.
GEOLOGY:	Paleozoic Basement - greywackes, cherts, volcanics, sandstones. Minor Tertiary basalt. Ultramafic intrusives (Permian), acid and intermediate with minor basic volcanics
ELEVATION:	300 - 1000
RELIEF:	6 - 365
MINOR LANDFORMS:	Volcanic plugs; mesas; buttes; talus slopes; structural benches, planeze forms. Floodplains and associated minor landforms.
BOUNDARIES:	Crawney Mountain to the south; Mastermans Range to the north; Nandewar Mountains to the west; Nandewar Range to the east.
REFERENCES:	Baker & Uren (1982), Jensen (1907)
TOPOGRAPHIC MAPS:	Armidale 1:1 m
GEOLOGICAL MAPS:	Tamworth, Manilla 1:250 000
OTHER SOURCES:	CZCS imagery, NSW Premiers Dep: Preliminary Survey of Resources, New England Region. New England Atlas. Atlas of Australian Soils
COMMENTS:	Diamonds in deep leads near Bullawa Creek
COMPILER:	GT, MC, Dec 1985

NAME:	MOONBI
NUMBER:	232
STYLE:	Erosional
BASIC FORM:	Gently undulating tableland.
SOILS:	Leached sand soils, sandy soils with mottled yellow clayey subsoils. Yellow Podzolic-Gley Podzolic (Uc2.3, Dy5.41)
SOILS ASSOCIATION:	Cb30, Wa10
DESCRIPTION:	Rugged granitic areas with rock walls and tors, with adjacent undulating to hilly country on granite with numerous granitic tors.
REGOLITH:	Soils often contain large amounts of ironstone and bauxitic gravels especially on undulating ridge tops (?plateau remnants). Red and black plastic, and cracking clay soils associated with weathered basalt. Alluvium and colluvium: red silt, clay and gravel. Grus and insitu deeply weathered granite
GEOLOGY:	Bundarra Granite (Permian); Minor Ordovician-Silurian sandstone, silstone, shale, phyllite, chert, conglomerate. Upper Devonian - Lower Carboniferous sandstone, siltstone, shale, shale, chert, limestone, phyllite, schists
ELEVATION:	800 to 1200
RELIEF:	90 to 180
MINOR LANDFORMS:	Isolated remmants of volcanic plugs (buttes). Tors. Exposed unloading granite domes. Alluvial flats and minor floodplain features. Small lakes close to or on Dividing Range.
BOUNDARIES:	Flaggy Mountain to the South; Round Mountain, Cave Mountain and Dividing Range to the East; Extensions of Mandewar Ranges to the west; Inverell gilgai plain to the north.
REFERENCES:	
TOPOGRAPHIC MAPS:	Armidale 1:1 m
GEOLOGICAL MAPS:	Tamworth, Manilla 1:250 000
OTHER SOURCES:	CZCS imagery; NSW Premiers Dep - Prelim Survey of Resources; New England Atlas. Atlas of Australian Soils
COMMENTS:	
COMPILER:	MC, GT, Dec 1985

NAME:	WALCHA
NUMBER:	233
STYLE:	Erosional
BASIC FORM:	Gently undulating tableland
SOILS:	Hard setting loamy soil with mottled red/yellow clayey subsoil; sand soils. Yellow solodic, yellow podzolic, red podzolic, skeletal soils. Minor gley Podzolic, Black Earths, Chocolate Prairie soils (Dy 3.42, Uc 4.1)
SOILS ASSOCIATION:	Ub53,60, JJ6; Tb50; Pb14,
DESCRIPTION:	Gently undulating to low hilly tableland, with some scattered basaltic knolls and ridges.
REGOLITH:	Some ironstone gravel in soils on lower slopes. Laterite is present below soils on some slopes. Some colluvial slopes. Relics of leached soils between basalt flows ('bole'). Red and black plastic and cracking clay soils; Grus mantles. Silcrete associated with basalt, ferruginous and aluminous duricrust remnants. Alluvium, colluvium: sand, silt, clay and gravel. Tertiary transported clays. Lacustrine clays.
GEOLOGY:	Paleozoic granites, Paleozoic volcanics of granite affinity. Some Tertiary basalt.
ELEVATION:	800 to 1200
RELIEF:	6 to 90
MINOR LANDFORMS:	Some steep to rugged terrain in the north. Isolated hills capped with basalt (buttes/mesas). Colluvial fans. River terraces, floodplains and minor associated landforms.
BOUNDARIES:	Great Escarpment to the east; Dividing Range to the west; Guyra tableland to the north; Great Escarpment to the south. Mostly based on soil map unit boundaries.
REFERENCES:	Baker & Uren (1982), Francis & Walker (1978), Packham (1969), Fitzpatrick (1979).
TOPOGRAPHIC MAPS:	Armidale 1:1 m
GEOLOGICAL MAPS:	Tamworth, Manilla 1:250 000
OTHER SOURCES:	CZCS imagery, New England Atlas, Atlas of Australian Soils
COMMENTS:	
COMPILER:	GT, MC, Dec 1985

NAME:	MACLEAY
NUMBER:	234
STYLE:	Erosional
BASIC FORM:	Deep gorges on Great Escarpment edge
SOILS:	Loamy soils with A2 horizon. Skeletal Soils. Red Podzolic. (Um 4.1)
SOILS ASSOCIATION:	LK 2
DESCRIPTION:	Precipitous escarpments and gorges on the eastern edge of the New England Plateau. Formed by the headwater tracts of the Macleay, Bellinger and Clarence River systems. Major waterfalls where rivers leave the plateau.
REGOLITH:	Bare rock, scree slopes, alluvium on rivers; high level river terraces. Red highly plastic clay soils
GEOLOGY:	Palaeozoic Basement - greywackes, cherts, volcanics, sandstones.
ELEVATION:	100 to 1150
RELIEF:	1000
MINOR LANDFORMS:	Waterfalls, steep gorges, alluvial terraces, rapids, landslides (now stabilised)
BOUNDARIES:	The Great Escarpment to the west. Coastal plain to the east. Wollombi River to the north. Great Escarpment to the south. Manly following soil map units.
REFERENCES:	Fitzpatrick (1979), Packham (1969).
TOPOGRAPHIC MAPS:	Armidale 1:1 m
GEOLOGICAL MAPS:	Dorrigo 1:250 000
OTHER SOURCES:	CZCS imagery, New England Atlas, Atlas of Australian Soils
COMMENTS:	
COMPILER:	GT, MC, Dec 1985

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NAME:	DORRIGO
NUMBER:	235
STYLE:	Volcanic
BASIC FORM:	Plateau
SOILS:	Krasnozems, red loams, red friable earths; friable loams; red friable porous earths (Um 6.3, Gn 3.14, Gn 4.11, Uc5.43)
SOILS ASSOCIATION:	Gz1; Mg23; Mj3
DESCRIPTION:	Plateau on Miocene Volcanics (basalt), five main flows exposed in southeast scarp. Weathering 0-4 m on top. Some interbasalt loams.
REGOLITH:	Red and black highly plastic and cracking clay soils derived from weathered basic volcanics. Alluvium and colluvium: sand, silt, clay and gravel.
GEOLOGY:	Tertiary (Miocene) Basalt. Palaeozoic slates exposed on escarpment. Some slate outcrop on plateau.
ELEVATION:	1540 m
RELIEF:	100 m on plateau, 500 m on foothills, 1000 m on scarp
MINOR LANDFORMS:	Escarpment on southeast exposing Palaeozoic slates. Some slate outcrop on plateau. Swamps in main valley, especially on west side. Valley flows to north with lateral streams. Miocene coal and mudstone outcrop occasionally under basalt.
BOUNDARIES:	Areal extent of basalt flow. Also based on combintion of three major soil map unit boundaries.
REFERENCES:	Smith (1942), Ollier (1982), Brown (1983)
TOPOGRAPHIC MAPS:	Armidale 1:1 m
GEOLOGICAL MAPS:	Dorrigo 1:250 000, Aust 1:250 000.
OTHER SOURCES:	CZCS imagery, CSIRO Soils & Land Use Series, New England Atlas, Atlas of Australian Soils.
COMMENTS:	
COMPILER:	GT, MC, Dec 1985

NAME:	TENTERFIELD
NUMBER:	236
STYLE:	Erosional
BASIC FORM:	Undulating granitic plateau
SOILS:	Hard setting and sandy soils with mottled yellow loamy clayey subsoils; leached sand soils; loams; plastic clay soils;
SOILS ASSOCIATION:	Wa14; Cb30; Ib58; F7; LK3; JJ6.
DESCRIPTION:	Undulating to hilly granitic plateau; some tors and larger outcrops.
REGOLITH:	Alluvium, colluvium: sand, silt, clay and gravel. Red and black, plastic and cracking clay soils. Grus mantles, sand and podzolic soils associated with weathered granite. Tertiary gravels and deep leads. River terraces. Tertiary transported clays (Emmaville), Laterites, deep leads cut into Permian sediments and granite.
GEOLOGY:	Lower Devonian sandstone, siltstone, shale; Upper Devonian - Lower Carboniferous sandstone, siltstone, shale, chert, limestone, phyllite, schist; Carboniferous granites. Permian acid and intermediate plus minor basic volcanics, sandstone, siltstone, mudstone, tillite, limestone, granites; Jurassic sandstone, siltstone, mudstone and granites. Tertiary basalt with minor acid volcanics.
ELEVATION:	Up to 1510
RELIEF:	30 - 900
MINOR LANDFORMS:	Tablelands, isolated basalt capped mesas/buttes. Exposed granite domes, with unloading joints, granite tors; positive and negative relief granite landscapes. Swamps and lakes associated with divide.
BOUNDARIES:	New England Range, Great Divide, Great Escarpment to the east. Main, Mastermans Ranges to the southwest. Edge of Goondiwindi - Texas plain to the northwest. Aberfoyle River to the south. (River floodplains and minor associated landforms).
REFERENCES:	Fitzpatrick (1979), Baker & Uren (1982), Packham (1969)
TOPOGRAPHIC MAPS:	Armidale 1:1 m
GEOLOGICAL MAPS:	Dorrigo, Grafton, Manilla Inverell 1:250 000, Aust. 1:2.5 m
OTHER SOURCES:	CZCS imagery, New England Atlas, Atlas of Australian Soils
COMMENTS:	
COMPILER:	MC, GT, Dec 1985

NAME:	INVERELL
NUMBER:	237
STYLE:	Volcanic
BASIC FORM:	Small, remnant basalt plateaux.
SOILS:	Red friable earths; cracking clays; Chocolate Prairie soils, Black Earths, Euchrozems, loamy soils with brown clayey subsoils. (Gn 3.12, Db 3.12)
SOILS ASSOCIATION:	Mo6,7; Rh5; Kd4; Kc5
DESCRIPTION:	Tertiary basalt province. Lava flows followed rivers, displacing drainage to form lateral streams. Flat topped basalt flows now stand as small remnant plateaux.
REGOLITH:	Basalt deeply weathered to red earth consisting of montmorillonites, kaolin and iron oxides. Frequently the weathering has proceded further to form ferricrete or laterite, and even bauxite. Some typical laterite profiles occur, with ferricrete over a red and white mottled zone, over a pallid zone of kaolin.
GEOLOGY:	Tertiary basalt over Mesozoic sediments and volcanics, and Palaeozoic basement. Deep leads along buried river courses. Alluvium and relic soils ('bole') between basalt flows.
ELEVATION:	300 to 1400 m
RELIEF:	90 to 180 m
MINOR LANDFORMS:	Minor mountain range; isolated hills; flat to undulating plains.
BOUNDARIES:	Areal extent of the Tertiary basalt. Masterman Range to the northwest and southwest. Guyra plateau to the east and southeast
REFERENCES:	David (1887), Ollier (1984), Andrews (1903), Baker & Uren (1982).
TOPOGRAPHIC MAPS:	Armidale 1:1 m
GEOLOGICAL MAPS:	Aust 1:2.5 m
OTHER SOURCES:	CZCS imagery, New England Atlas, Atlas of Australian Soils
COMMENTS:	
COMPILER:	GT, MC, Dec 1985

NAME:	KAPUTAR
NUMBER:	238
STYLE:	Erosional/volcanic
BASIC FORM:	Isolated mountains
SOILS:	Loamy soils with brown clayey subsoils. Loams with A2 horizons.
SOILS ASSOCIATION:	Rh8; LK3
DESCRIPTION:	The Mount Kaputar-Nandewar Ranges is an oval mass divided by Bullowa creek. The northern mass is very dissected whereas the southern mass represents a tableland topography.
REGOLITH:	The Nandewars are surrounded by thick alluvial black soil plains; Black soils are also derived from weathered volcanics. Mantles of deep yellow and white aeolian sand deposits. Volcanics weathering in spheroidal patterns
GEOLOGY:	Permian sediments. Upper Carboniferous sandstone, mudstone, siltstone. Jurassic sandstone, siltstone, mudstone. Tertiary basalt with minor acid volcanics. Upper Devonian-Lower Carboniferous sediments. Intrusives: granite syenite. Extrusives; trachyte, phonolite, rhyolite, tuffs, as well as porphyries.
ELEVATION:	500-1500 m
RELIEF:	500-800 m.
MINOR LANDFORMS:	Necks and cones, steep narrow gorge-like valleys, mesas
BOUNDARIES:	Manilla and Harton Rivers to the east; Extent of Nandewar Range to the west;
REFERENCES:	Jensen (1907), Packham (1969).
TOPOGRAPHIC MAPS:	Armidale, Bourke 1:1 m
GEOLOGICAL MAPS:	Aust 1:2.5 m
OTHER SOURCES:	CZCS imagery, Atlas of Australian Soils
COMMENTS:	
COMPILER:	MC, GT, Dec 1985

NAME:	NARRABRI
NUMBER:	239
STYLE:	Erosional, volcanic, depositional
BASIC FORM:	Undulating hills, and plains
SOILS:	Hard setting loamy soils, brown and with red clayey subsoils; loams; cracking clays; red friable earths. (Ug 5.24, Dy 3.42, Dr. 2.33, Gn 3.13)
SOILS ASSOCIATION:	Oc15; LK3; R02; CC20; Mn2;
DESCRIPTION:	NW trending tract consisting of hills in southeast associated with Nandewar Range, grading to flat plains towards northwest. Central section abuts the Mt Kaputar-Nandewar Mountains. The tract is essentially the valley and slopes of the Namoi River
REGOLITH:	Thick alluvial deposits: sand, silt and clay; black, and some red expansive clay soils. Black soil plains contain deposits of coarse fluvial gravels derived from volcanics and local conglomerates.
GEOLOGY:	Upper Devonian - Lower Carboniferous sediments, Upper Carboniferous sediments, Triassic and Jurassic sandstone, siltstone, mudstone. Jurassic intermediate and basic volcanics. Cretaceous sandstone, siltstone, limestone, shale. Tertiary basalt and minor acid volcanics
ELEVATION:	150 - 900 m
RELIEF:	50 - 500 m
MINOR LANDFORMS:	Floodplains and associated minor landforms, high altitude springs
BOUNDARIES:	Duri Mountain, Breeza plain, The Sugarloaf Mountain to the south-southwest. Mt Kaputar, Nandewar Range, to the north-northeast. Wee Waa, Walgett plains to the west.
REFERENCES:	Jensen (1906, 1907), Packham (1969).
TOPOGRAPHIC MAPS:	Armidale, Bourke 1:1 m
GEOLOGICAL MAPS:	Aust 1:2.5 m
OTHER SOURCES:	CZCS imagery, Atlas of Australian Soils
COMMENTS:	
COMPILER:	MC, GT Dec 1985

NAME:	BUGALDIE
NUMBER:	240
STYLE:	Erosional
BASIC FORM:	Undulating plain
SOILS:	Sandy soils with mottled yellow clayey subsoil; yellow earths; red friable earths.(Gn3.12; Gn2.21; Dy5.42)
SOILS ASSOCIATION:	X11; MS1; M05
DESCRIPTION:	The south eastern area comprises the slopes of the Warrumbungle Range; the lateral position envelopes the major catchment of Borah, Coghill, Cabba and Etoo Creeks. Slopes give way to flatter areas approaching the Walgett plains.
REGOLITH:	Alluvial sand,silt, clay. Black (some minor red) plastic and expanding clay soils derived from weathered volcanics of Warrumbungle and associated volcanics. Some gravel deposits consisting of weathered volcanics and remnant clasts of eroded Palaeozoic conglomerates. Diatomite.
GEOLOGY:	Triassic sandstone, siltstone, mudstone. Jurassic sandstone, siltstone, mudstone. Cretaceous sandstone, siltstone, mudstone, limestone. Minor Tertiary basalt, diatomite. Cainozoic alluvial, colluvial lacustrine deposits
ELEVATION:	150 - 700 m
RELIEF:	10 - 200 m
MINOR LANDFORMS:	Fluvial terraces in major creeks; eroded remnants of Warrumbungle volcanics.
BOUNDARIES:	Willala Mountain and associated NE/SW trending hills to the southeast; Warrumbungle Range to the southwest; edge of Baradine-Cuttabri plains to the west; Narrabri plain to the north
REFERENCES:	Jensen (1906, 1907), Packham (1969).
TOPOGRAPHIC MAPS:	Bourke 1:1 m
GEOLOGICAL MAPS:	Australia 1:2.5 m
OTHER SOURCES:	CZCS imagery, Atlas of Australian Soils
COMMENTS:	
COMPILER:	MC, GT, Dec 1985

NAME:	MURRAY
NUMBER:	241
STYLE:	Depositional
BASIC FORM:	Alluvialplains
SOILS:	Deep grey, self mulching cracking clays (Ug 5.24 & .25)
SOILS ASSOCIATION:	CC1,2,3
DESCRIPTION:	Riverine plains of grey cracking clays with low gilgais. Numerous drainage ways and swamps. Prior streams and related features.
REGOLITH:	Grey, self mulching, cracking riverine clays. Levees of prior streams composed of grey sandy loam. Thin parna mantles over much of the region. There is no vertical differentiation in the regolith profile.
GEOLOGY:	Cretaceous and Tertiary sediments of the Murray Basin
ELEVATION:	Less than 200 m
RELIEF:	Less than 6 m
MINOR LANDFORMS:	River floodplains and associated landforms
BOUNDARIES:	Eastern edge of Hay plains, Mt Cemon, Mt Arthur, narrow strip along Lachlan River to Forbes and Grogan, Lake Coival, eastern side of the Willandra Lakes system to the West continuing along Lodden River valley; Rochester, Yarrawonga, Shepparton to the South. Primarily soil mapping units and physiographic boundaries.
REFERENCES:	Butler and others (1983), Hills (1975).
TOPOGRAPHIC MAPS:	Canberra, Melbourne, Adelaide, Hamilton 1:1 m
GEOLOGICAL MAPS:	Australia 1:2.5 m
OTHER SOURCES:	CZCS imagery, Atlas of Australian Soils
COMMENTS:	
COMPILER:	MC, GT Dec 1986

NAME:	BOBADAH
NUMBER:	242
STYLE:	Erosional
BASIC FORM:	Undulating hills and minor plains
SOILS:	Hard setting loamy soils with mottled red-yellow clayey subsoils; red earths. (Dy 3.42; Dr 3.32; Gn 2.13; Gn 2.13)
SOILS ASSOCIATION:	Ub52; QC6; MX5; My8
DESCRIPTION:	Undulating hilly terrain with occasional higher rises to NE, narrow strip on western edge of Bogan River Floodplain.
REGOLITH:	Alluvial plains: sand, silt, clay and gravel; black and some red plastic and expanding clay soils (mainly alluvial). Fluvial-colluvial conglomerate, poorly sorted and silicifed, and silcrete. Dispersed calcrete as kunkar. Aeolian red and brown clayey sand and loam.
GEOLOGY:	Cambro-Ordovician schist, quartzite, metabasalt, gneiss, phyllite. Ordovician sandstone, quartzite, slate, conglomerate, limestone. Lower Devonian acid and intermediate volcanics, sandstone siltstones, shales. Upper Devonian - Lower Carboniferous sandstone, siltstone, shale, phyllite, schist, chert. Silurian granites. Cretaceous shale, siltstone, sandstone, limestone. Cainozoic aeolian and residual quartz sand, alluvial, colluvial, and lacustrine deposits
ELEVATION:	180-600 m
RELIEF:	100 m - 400 m
MINOR LANDFORMS:	Isolated Hills on flat to undulating country, hilly terrain.
BOUNDARIES:	Boona Mountains, Durriwong Mt, Black Range to the south and southwest. Boggan Creek and River to the northeast and north. Tarran and Bald HIlls to the west. Babinda Hill and Buckeroo Mountain to the northwest. Soil map units and CZCS imagery are main sources for boundaries.
REFERENCES:	Packham (1969), Stannard (1962), David (1950), Brunker (1969).
TOPOGRAPHIC MAPS:	Canberra, Bourke 1:1 m
GEOLOGICAL MAPS:	Australia 1:2.5 m
OTHER SOURCES:	CZCS imagery, Atlas of Australian Soils
COMMENTS:	
COMPILER:	MC, GT, Dec 1985

NAME:	GRIFFITH
NUMBER:	243
STYLE:	Erosional
BASIC FORM:	Undulating plains cut by narrow steep-sided ranges.
SOILS:	Hard setting loamy soils with red clayey subsoils; red earths.
SOILS ASSOCIATION:	Oc3; Mx4; My6,9,10; Oc4,8
DESCRIPTION:	Undulating plains, with low and very low dune forms, kunkar, and areas of large melon-hole depresssions. Cut by narrow steep-sided ranges, some with gently undulating crests.
REGOLITH:	Kunkar and buried palaeosols; alluvium (sand, silt, gravel and clay). Black and some red platic and expanding soils. Aeolian and residual sand deposits. River terraces.
GEOLOGY:	Ordovician sandstone, quartzite, slate, conglomerate, limestone. Ordovician - Silurian sandstone, siltstone, chert, phyllite, slate, conglomerate. Silurian granite. Lower Devonian sandstone, siltstone, shale, acid and intermediate volcanics. Upper Devonian - Lower Carboniferous sandstone, siltstone, shale, chert, limestone, phyllite, schist. Tertiary basalt, minor acid volcanics, fluvial sandstone, conglomerate. Cainozoic aeolian and residual quartz sands; alluvial, colluvial, lacustrine and marine sand, silt, clay and gravel
ELEVATION:	180-455 m
RELIEF:	50-350 m
MINOR LANDFORMS:	Minor lakes and lowland swamps, river terraces; floodplain and associated minor floodplain landforms.
BOUNDARIES:	Murumbidgee River to the South; Mt Cemon to the West; Lachlan River to the northwest; Mt Bolero-Mt Ariah to Manna Mountain to the east-northeast; Lachlan River, Lake Cargelligo to the north.
REFERENCES:	Packham (1969).
TOPOGRAPHIC MAPS:	Canberra 1:1 m
GEOLOGICAL MAPS:	Cargelligo 1:250 000
OTHER SOURCES:	CZCS imagery, Atlas of Australian Soils
COMMENTS:	
COMPILER:	MC, GT Dec 1985

NAME:	COBAR
NUMBER:	244
STYLE:	Erosional
BASIC FORM:	Undulating hills and plains
SOILS:	Red Earths; Hard setting loamy soils with red clayey subsoils; Loamy soils; Brown calcareous earths. (Gn 2.11; Gn 2.13; Dr 2.32 Gc 1.22; Um 1.4)
SOILS ASSOCIATION:	MY1,78; Mx2; Qc3,4; Fz1; DD3
DESCRIPTION:	Undulating hilly terrain with isolated higher rises; also known as Cobar peneplane, surrounded by the Western plains.
REGOLITH:	Quaternary fluvial, aeolian and residual sand, clay and gravel. Silcrete, silicified conglomerate. Aeolian red and brown clayey sand and loam.
GEOLOGY:	Cambro-Ordovician schist, quartzite, phyllite, gneiss, metabasalt; Ordovician sandstone, quartzite, slate, conglomerate, limestone. Silurian granites. Lower Devonian acid and intermediate volcanics, siltstone, shale, conglomerate, limestone. Upper Devonian - Lower Carboniferous sandstone, siltstone, shale, chert, limestone, phyllite, schist. Tertiary fluvial sandstones, conglomerates. Cainozoic aeolian and residual quartz sands; alluvial colluvial, lacustrine and marine sand, silts, clays and conglomerates
ELEVATION:	180-600 m
RELIEF:	50-250 m
MINOR LANDFORMS:	Undulating hills; minor river/creek terraces.
BOUNDARIES:	Babinda Hill, Buckeroo Mountain to the east; Boona Mountains, Derriawong Mt, Black Range to the south-southeast.
REFERENCES:	Packham (1969), Brinker (1969), Stannard (1962), David (1950).
TOPOGRAPHIC MAPS:	Canberra, Bourke 1:1 m
GEOLOGICAL MAPS:	Australia 1:2.5 m
OTHER SOURCES:	CZCS imagery, Atlas of Australian Soils
COMMENTS:	
COMPILER:	MC, GT, Jan 1986

NAME: ROTO
NUMBER: 245
STYLE: Erosional/Depositional
BASIC FORM: Plains
SOILS: Red earths, loamy soils (Gn2.13, Dr5.43, Um1.4)
SOILS ASSOCIATION: Mx2; Fz1
DESCRIPTION: Plains, sandy in the west, with a few scattered low rocky hills and ridges. Some swamps, some kunkar.
REGOLITH: Quartz and ironstone gravels. Some kunkar
GEOLOGY: Lower Devonian acid and intermediate volcanics, sandstone, siltstone, shale. Upper Devonian - Lower Carboniferous sandstone, siltstone, chert, limestone, phyllite, schist. Tertiary aeolian and residual quartz sands.
ELEVATION: 180-309 m
RELIEF: Less than 5 m to 230 m
MINOR LANDFORMS: Sand Dunes - east-west trending; flat plains; minor creeks and associated terraces
BOUNDARIES: Lachlan River to the South; Yababungaba Range, Mt. Nombinnie to Kilparney to the north; east side of Bogalo Range to Warraway Mountain to the east.
REFERENCES: Packham (1969)
TOPOGRAPHIC MAPS: Canberra 1:1 m
GEOLOGICAL MAPS: Cargelligo 1:250 000; Australia 1:2.5 m
OTHER SOURCES: CZCS imagery, Atlas of Australian Soils
COMMENTS:
COMPILER: MC, GT, Jan 1986

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NAME: IVANHOE
NUMBER: 246
STYLE: Erosional/depositional
BASIC FORM: Plains
SOILS: Cracking clay, brown calcareous earths, crusty loamy soils with red clay subsoils (Gc1.22; Dr1.43, Ug5.24)
SOILS ASSOCIATION: NC1; DD3; CC1
DESCRIPTION: Plains with melon-hole micro-relief in places, tracts of dunes, box flats.
REGOLITH: Alluvial flats: sand silt clay and some gravel deposits. Aeolian sand cover forming dune tracts. Clay-rich soils - highly plastic red variety and gypsiferous. Black clay, shales and very dark grey clays. Extensive economic gypsum deposts
GEOLOGY: Upper Devonian - Lower Carboniferous sandstone, siltstone, shale, limestone, chert, phyllite, schist. Tertiary fluvial sandstone and conglomerate, underlain by Permian? Cainozoic aeolian and residual quartz sand.
ELEVATION: Less than 200 m
RELIEF: Less than 6 m
MINOR LANDFORMS: Minor saline lakes east of Ivanhoe, east-west oriented sand dunes in NE.
BOUNDARIES: Willandra Lakes system to the southeast; edge of dunes South of Neckarboo Range to the north; edge of dunes west of Yabagungabra Range to the east; Manara Hills to the west.
REFERENCES: Packham (1969)
TOPOGRAPHIC MAPS: Canberra, Adelaide 1:1 m
GEOLOGICAL MAPS: Ivanhoe 1:250 000
OTHER SOURCES: CZCS imagery, Atlas of Australian Soils
COMMENTS:
COMPILER: GT, MC, Jan 1986

NAME:	MANARA
NUMBER:	247
STYLE:	Depositional
BASIC FORM:	Plains
SOILS:	Crusty loamy soils with red clayey subsoils; Brown calcareous earths; Amorphous soils; loams (Gc1.22; Dr1.13; Um1; Um5)
SOILS ASSOCIATION:	DD3, Fz1. F6, Na3
DESCRIPTION:	Plains with melon-hole microrelief in places, tracts of dunes, box flats.
REGOLITH:	Aeolian sand with silt and clay derived from earlier levee deposits; dark grey and black clays with shiny prismatic appearence ('black clay shales'). Some red clayey soil plains; copi ridges. Commercial gypsum mines.
GEOLOGY:	Upper Devonian - Lower Carboniferous sandstone, siltstone, shale, chert, limestone, phyllite, schist. Tertiary fluvial sandstone, conglomerate over Permian ? sediments. Cainozoic aeolian and residual quartz sands
ELEVATION:	Less than 180 m
RELIEF:	Less than 6 m
MINOR LANDFORMS:	Isolated hills. Lakes - saline/gypsiferous. Floodplains and associated minor landforms. Minor lunettes on east of lakes.
BOUNDARIES:	Manara Hills to the east; Darnick Range to the south; Lakes east of Wenindae to the west; east edge of Darling meander plain and Greenoughs Hill to the northeast
REFERENCES:	Packham (1969).
TOPOGRAPHIC MAPS:	Adelaide, Bourke, Canberra 1:1 m
GEOLOGICAL MAPS:	Manara 1:250 000
OTHER SOURCES:	CZCS imagery, Atlas of Australian Soils
COMMENTS:	
COMPILER:	GT, MC, Jan 1986

NAME:	SCOPES RANGE
NUMBER:	248
STYLE:	Depositional
BASIC FORM:	Undulating plains
SOILS:	Cracking clays; brown calcareous earths; crusty loamy soils with red clayey subsoils; red earths; sands (Ug5.3; Gc1.22; Dr1; Gn2.13; Uc1.43)
SOILS ASSOCIATION:	DD3; Mx37, CC19; Nb33; BA52; MM73,74
DESCRIPTION:	Undulating plain with numerous low sand ridges and dunes; associated clay flats and occasional high isolated hills on plains.
REGOLITH:	Aeolian quartz sand mantle. Black and dark grey well structured clay soils. Red sandy clay soils. Alluvial deposits: sand, silt, clay and gravel from prior streams. Ferruginous, aluminous and siliceous duricrusts (grey-billy, porcellanite, quartzite, silified conglomerate)
GEOLOGY:	Lower Proterozoic Quartzite, schists, gneiss, amphibolite. Cambrian sandstone, limestone, shale, siltstone, comglomerate. Cambro-Ordovician sandstone, siltstone, chert. Upper Devonian - Lower Carboniferous sandstone, siltstone, shale, chert, limestone, phyllite, schists. Cretaceous shale, siltstone, sandstone, limestone. Tertiary fluvial sandstone, conglomerate. Cainozoic aeolian and residual quartz sand. Ferriginous, aluminious and siliceous duricrust.
ELEVATION:	180-355 m
RELIEF:	Less than 5 m - 300 m
MINOR LANDFORMS:	Isolated high hills, saline and gypsiferous lakes, NE trending low sand ridges and dunes. Floodplains and associated minor landforms. Cane grass swamps.
BOUNDARIES:	Scopes Range to the south; Mt Murchison to the southeast; Bullo River overflow to the northeast; Noonthorangee and Bynguans Ranges to the east; plain below the Barrier Range to Mt Arrowsmith to the west and northwest
REFERENCES:	Packham (1969), Wopfner (1967), Brunker (1967)
TOPOGRAPHIC MAPS:	Broken Hill 1:1 m
GEOLOGICAL MAPS:	White Cliffs, Cobham Lake, Broken Hill, Wilcannia 1:250 000
OTHER SOURCES:	CZCS imagery, Atlas of Australian Soils
COMMENTS:	
COMPILER:	GT, MC, Jan 1986

NAME:	NOONTHORANGEE
NUMBER:	249
STYLE:	Erosional
BASIC FORM:	Rugged hilly terrain
SOILS:	Cracking clays; crust loamy soils with red clayey subsoils; red earths (Ug5.3; Dr1; Gn2.13; Uc1.43)
SOILS ASSOCIATION:	Fz51; MM73,74; Nb31; CC19; Mx37
DESCRIPTION:	Rugged hilly terrain mainly on sandstone. Koonenberry Mountain and the Coturandee Range are fault-bounded blocks.
REGOLITH:	Peak Tank weathering profiles (bleached Precambrian underlying silcrete). The degree of alteration decreases with depth, relict structures are better preserved at depth. Peak Tank ferricrete overlying Precambrian sandstones (containing west dipping cross-beds). 4.5 m maximum thickness northwest of Peak Tank: quartz pebble conglomerate and soft red pebbly sandstone underlying silcrete cappings (old gold sites). Fine gypsiferous sand and clay (1.2 m) exposed beneath silcrete near Nuntherungie Homestead. Gypsiferous soils, alluvium, players, sandplains, dunes. Colluvium
GEOLOGY:	Lower Proterozoic quartzite, schist, gneiss, amphibolite. Cambrian sandstone, limestone, shale, siltstone, conglomerate. Cambro-Ordovician sandstone, siltstone, chert. Upper Devonian-Lower Carboniferous sandstone, siltstone, shale, chert, limestone, phyllite, schist. Cretaceous shale, siltstone, sandstone, limestone. Cainozoic aeolian and residual sands, ferruginous, aluminous and siliceous duricrusts
ELEVATION:	180 m - 433
RELIEF:	100 m
MINOR LANDFORMS:	Minor sand ridges, and sand dunes (NE trending).
BOUNDARIES:	Approx 200 m + contour between Barrier Range and Warwick Hills near White Cliffs.
REFERENCES:	Rose (1974), Packham (1969), Brunker (1967), Watts (1978).
TOPOGRAPHIC MAPS:	Broken Hill 1:1 m
GEOLOGICAL MAPS:	Cobham Lake, Wilcannia, White Cliffs 1:250 000
OTHER SOURCES:	CZCS imagery, Atlas of Australian Soils
COMMENTS:	
COMPILER:	GT, MC, Jan 1986

NAME:	WONGA
NUMBER:	250
STYLE:	Depositional
BASIC FORM:	Plains
SOILS:	Brown calcareous earths; cracking clay; crusty, loamy soils with red clayey subsoils (Gc1.12, 1.22, 2.12; Dr1.43; Ug5.2)
SOILS ASSOCIATION:	DD3; NC1; CC1
DESCRIPTION:	Plains with melon-hole micro-relief in places, tracts of dunes, box flats.
REGOLITH:	Red sand soil plains, aeolian and residual quartz sand mantle. Alluvial sand silt, clay and some gravels mainly derived from prior streams.
GEOLOGY:	Tertiary fluvial sandstone, conglomerate; marine sandstone, siltstone, mudstone. Cainozoic aeolian and residual quartz sand; clay, silt, minor sand (residual some alluvial). Quarternary evaporites: gypsum, halite, with clay.
ELEVATION:	Less than 180 m
RELIEF:	Less than 6 m
MINOR LANDFORMS:	Numerous very low sand ridges; minor salt and gypsum lakes; Lowland swamps
BOUNDARIES:	Darnick Range to the northeast; Menindee Lakes and Great Anabranch of Darling River to the northwest and west; Murray River to the south and southwest.
REFERENCES:	Packham (1969)
TOPOGRAPHIC MAPS:	Adelaide 1:1 m
GEOLOGICAL MAPS:	Manara 1:250 000, Australia 1:2.5 m
OTHER SOURCES:	CZCS imagery, Atlas of Australian Soils, Journal of the Soil Conservation Service of NSW, 10, p24-34 and 8, p173-182
COMMENTS:	
COMPILER:	GT, MC, Jan 1986

NAME:	WALGETT
NUMBER:	251
STYLE:	Depositional
BASIC FORM:	Flat plains with low, flat conglomerate capped ridges.
SOILS:	Cracking clays; hard setting and crusty loamy soils with brown clayey subsoils; red earths; hard setting loamy soils with red clayey subsoils; grey earths; friable loams with clayey subsoils
SOILS ASSOCIATION:	CC16,17; Ro3; Nb5; My1; Oc12; MQ1; HG2; Rz1; Kh2; Kd1;
DESCRIPTION:	Flat to undulating plains. Sand dunes and limited mantle elevated above plains. Low ridges and buttes or small mesas, claypans lakes and internal drainage depressions - slightly elevated areas.
REGOLITH:	Extensive black soil plains, dune sand and residual quartz sand mantle. Silicified conglomerate, quartzite and porcellanite. Precious opal. Extensive clayey silt and sand. Subsilcrete unconsolidated sediments. Parna deposits.
GEOLOGY:	Minor Cambro-Ordovician metamorphics and quartzite; Minor Upper Devonian - Lower Carboniferous sediments and metamorphics. Minor Jurassic sandstone, siltstone, mudstone. Cretaceous sandstone, siltstone, mudstone, limestone. Minor Silurian granite. Cainozoic alluvial, colluvial, lacustrine and marine sand, silt, clay and gravel.
ELEVATION:	120-180 m
RELIEF:	6-60 m
MINOR LANDFORMS:	Talus slopes, breakaways, low sand ridges and dunes, claypans.
BOUNDARIES:	Northwest side of Culgoa floodplain to the northwest; Warren - Coonamble - Wee Waa - Maree to the east. Determined by combination of soil map units, CZCS imagery and physiographic units.
REFERENCES:	Offenberg (1967), Packham (1969)
TOPOGRAPHIC MAPS:	Bourke, Armidale and Canberra 1:1 m.
GEOLOGICAL MAPS:	Australia 1:2.5 m, Moree, Angledool, Narrabri 1:250 000
OTHER SOURCES:	CZCS imagery, Atlas of Australian Soils
COMMENTS:	
COMPILER:	GT, MC, Jan 1986

NAME:	CLARE
NUMBER:	252
STYLE:	Depositional
BASIC FORM:	Plains
SOILS:	Cracking plains; crusty, loamy soils with red clayey subsoil; brown calcareous earths (Gc1.22, Ug5.2)
SOILS ASSOCIATION:	NC1; DD3; CC1; II2
DESCRIPTION:	Plains with some swamps.
REGOLITH:	Alluvial sand, silt, clay, and some gravels derived from prior streams; sand mantles; red plastic clay soils, clayey silt and sand. Kunkar and parna deposits. Gypsum and saline lakes deposits.
GEOLOGY:	Tertiary fluvial sandstone, conglomerate; marine sandstone, siltstone, mudstone. Cainozoic aeolian and residual quartz sand, clay, silt, minor sand (residual, some alluvial).
ELEVATION:	120-180 m
RELIEF:	Less than 6 m
MINOR LANDFORMS:	Lowland swamps and floodplains with associated minor landforms; minor lunettes.
BOUNDARIES:	Willandra Lakes in part to northwest; West of Tyson Lake to the southeast; Gunnaramby swamp to the north; Barneys Lake and Moolbong Creek to the north and northeast.
REFERENCES:	Packham (1969).
TOPOGRAPHIC MAPS:	Adelaide, Canberra 1:1 m
GEOLOGICAL MAPS:	Australia 1:2.5 m
OTHER SOURCES:	CZCS imagery, Atlas of Australian Soils
COMMENTS:	
COMPILER:	GT, MC, Jan 1986

NAME:	WAGGA
NUMBER:	253
STYLE:	Erosional/Depositional
BASIC FORM:	Plains
SOILS:	Hard setting loamy soil with mottled yellow subsoil or red-subsoil; red earths
SOILS ASSOCIATION:	Va16,17; My10; Oc7,3; Qb3; Qc3; Pb4,7; Oc1; Ub24; Qc1
DESCRIPTION:	Undulating country with broad slopes and low narrow, often gravelly or stony ridges, passes into plains to the west with swampy depressions and ridges associated with prior river systems
REGOLITH:	Alluvial clay, silt, sand and gravel. Black and red highly plastic and expanding clay soils. Thick colluvial wedges in hilly slopes to plains. Alluvium up to 30 m thick
GEOLOGY:	Mostly extensive combinations of Palaeozoic sediments, volcanics, metamorphics and intrusives, covered in part by Tertiary fluvial sediments (sandstones, conglomerates) and by Cainozoic aeolian and residual sands. Tertiary basalt
ELEVATION:	Less than 200 to 634 m
RELIEF:	5-355 m
MINOR LANDFORMS:	Isolated hills on edge of plains, lowland swamps, floodplains and associated minor landforms; occasional lakes; levees, lunettes, ancestral stream courses. River terraces. Alluvial and colluvial fans.
BOUNDARIES:	Northern slopes of Victorian portion of Dividing Range (edge of Murray Basin) to the south; Narrandera Range to the northwest; western side of Loddon Valley (Victoria) to the west
REFERENCES:	Packham (1969), Douglas and Ferguson (1976)
TOPOGRAPHIC MAPS:	Canberra, Melbourne, Hamilton 1:1 m
GEOLOGICAL MAPS:	Australia 1:2.5 m
OTHER SOURCES:	CZCS imagery, Atlas of Australian Soils
COMMENTS:	
COMPILER:	GT, MC, Jan 1986

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NAME:	MOIRA LAKES
NUMBER:	254
STYLE:	Depositional
BASIC FORM:	Large triangular area of swamp
SOILS:	Hard setting loamy soils with red clayey subsoils
SOILS ASSOCIATION:	OC1; CC3
DESCRIPTION:	Alluvial plains of grey cracking clays. Swampy and disorganised drainage
REGOLITH:	Thick alluvial sequences: sand silt clay and gravel derived from prior streams
GEOLOGY:	Tertiary fluvial sandstones or conglomerates. Cainozoic aeolian and residual quartz sands.
ELEVATION:	Less than 200 m
RELIEF:	Less than 6 m
MINOR LANDFORMS:	River floodplains and associated minor landforms; lakes. Cadell fault block
BOUNDARIES:	Bullatab Creek to the north; Edward River to the west; Murray Annabranches elsewhere
REFERENCES:	Packham (1969), Douglas and Fergusson (1976)
TOPOGRAPHIC MAPS:	Melbourne 1:1 m
GEOLOGICAL MAPS:	Balranald 1:250 000, Australia 1:2.5 m
OTHER SOURCES:	CZCS imagery, Atlas of Australian Soils
COMMENTS:	
COMPILER:	GT, MC, Jan 1986

NAME:	DARTMOOR
NUMBER:	255
STYLE:	Depositional
BASIC FORM:	Coastal Plain
SOILS:	Nomopodsols, sandy leptopodsols, solodic soils, swamp soils, rendzinas & terra rossas (Dy5.43, Uc2, Ug5.11, Uc6.13)
SOILS ASSOCIATION:	Cb3; Ya22,13,12,6,4,3; Ca1; Ka1,2; E4; Qb1; Cb4, 2; E1-4
DESCRIPTION:	Swampy coastal plain with clayey lagoon deposits. Swampy plain overlain in large areas by gentle dunes and sheets of white arid sand. Adjacent to coast indurated dunes of calcareous sand and dunes of orange sand
REGOLITH:	Sequence of stranded beach ridges (Tertiary); silicified and ferruginised sands (Karoonda Surface); Ripon calcrete
GEOLOGY:	Oligocene and Miocene polyzoal limestone of the Mt Cambier Formation, overlain by indurated limestone dunes. Knight Group - oldest Tertiary sediments. Dartmoor, Tartwanp, Gambier Formations.
ELEVATION:	30 to 60 m
RELIEF:	Less than 6 m
MINOR LANDFORMS:	Steep coastal dunes of calcareous sand; coastal swamps
BOUNDARIES:	South-west coast of Victoria to Portland. Inland boundef by the Kanaunka Fault - Monocline. Essentially boundaries are composites of soil map units.
REFERENCES:	Blackburn (1959), Hills (1975), Parkin (1969)
TOPOGRAPHIC MAPS:	Hamilton 1:1 m
GEOLOGICAL MAPS:	Portland, Hamilton, Penola 1:250 000
OTHER SOURCES:	CZCS imagery, Atlas of Australian Soils, Soil Conservation Authority Bulletin TC 3
COMMENTS:	
COMPILER:	GT, MC, Jan 1986

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NAME:	CASTERTON
NUMBER:	256
STYLE:	Erosional
BASIC FORM:	Lateritized Tableland
SOILS:	Prairie soils, chernozems, solodic soils, leptopodsols (Ug5.1, Dy3.61)
SOILS ASSOCIATION:	Ka1-4; TC1-3
DESCRIPTION:	Extensive fossil lateritized tableland, deeply dissected into underlying Palaeozoic. Igneous and sedimentary rocks
REGOLITH:	Fossil laterite on the tableland. An upper reddened and iron-rich zone which is frequently indurated, a mottled red and white zone and a lower pallid zone which is kaolin rich
GEOLOGY:	Mesozoic fine-grained calcareous sediments. Tertiary sediments and Permo-Carboniferous acid igneous rocks and glacial deposits
ELEVATION:	Tableland 180 to 300
RELIEF:	30 to 90 m on Tableland; 90 to 180 where dissected
MINOR LANDFORMS:	Shallow swamps on tableland
BOUNDARIES:	Within a circle described approximately by the Gognelg and Wannon Rivers, essentially related to boundary lines of soil map units
REFERENCES:	Hills (1975)
TOPOGRAPHIC MAPS:	Hamilton 1:250 000; Hamilton 1:1 000 000
GEOLOGICAL MAPS:	Hamilton 1:250 000; Australia 1:2.5 m
OTHER SOURCES:	CZCS imagery, Atlas of Australian Soils, Soil Conservation Authority Bulletin TC 3
COMMENTS:	
COMPILER:	GT, MC, Jan 1986

NAME:	HAMILTON
NUMBER:	257
STYLE:	Erosional/volcanic
BASIC FORM:	Volcanic basalt plains
SOILS:	Solodic soils, Chocolate soils, Prairie soils, Brown earths
SOILS ASSOCIATION:	Va2, Tb1, HH1, GG1, Rd1, FF1, G1, Ub2, KE1, X7
DESCRIPTION:	Lateritized basalt plains. In parts deeply dissected to expose underlying rocks. Volcanic scoria cones rise above the plains, and are younger than the plains. Stony rises and gilgai plains
REGOLITH:	Deep kaolinitic weathering of the surface of the basalt, resembling the classic laterite profile, with upper strongly reddened and friable zone, intermediate mottled zone and a lower pallid zone above altered rock. In some places laterite underlies the basalt. Ironstone nodules and pellets are found in the soils
GEOLOGY:	Pliocene to Holocene basalt
ELEVATION:	90 - 300 m
RELIEF:	Mostly 6 - 30 m
MINOR LANDFORMS:	Crater lakes, including those that occupy maars. Lunettes on the eastern shores of most relict lakes. Lava tunnels in the basalt. Swamps on the plains
BOUNDARIES:	Victorian highlands to the north, Tertiary marine limestones of the coastal plains to the south. Closely related to soil map units and physiographic boundaries
REFERENCES:	Hills (1975), Wellman (1972)
TOPOGRAPHIC MAPS:	Hamilton 1:1m
GEOLOGICAL MAPS:	Hamilton, Portland, Ballarat, Colac 1:250 000
OTHER SOURCES:	CZCS imagery, Soil Conservation Authority Bulletin TC3, Atlas of Australian Soils
COMMENTS:	
COMPILER:	GT, MC, DLG, Jan 1986

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NAME:	OTWAY
NUMBER:	258
STYLE:	Erosional
BASIC FORM:	Mountain Range
SOILS:	Brown, yellow, Podzolic soils & Prairie soils. Solodic soils (Dy 3.24)
SOILS ASSOCIATION:	Ta1
DESCRIPTION:	Mountainous range formed by large scale block-faulting
REGOLITH:	Gravels and aeolian sands
GEOLOGY:	Upper Mesozoic calcareous, feldspathic sedimentry rocks. Overlain by Cainozoic gravels, sands, and sedimentary rocks
ELEVATION:	530 m (tops of ridges)
RELIEF:	180 to 365 metres
MINOR LANDFORMS:	Minor river valleys and terraces; deep dissection; uplifted area of initial subdued relief
BOUNDARIES:	Lower northwest slopes of Otway Range, approx 200 m elevation; Southern Ocean to the southeast and southwest. Boundary essentially physiographic and from soil map units boundary
REFERENCES:	Walker and others (1983), Hills (1975), Douglas and Fergusson (1976)
TOPOGRAPHIC MAPS:	Hamilton 1:1 m
GEOLOGICAL MAPS:	Colac 1:250 000; Australia 1:2.5 m
OTHER SOURCES:	CZCS imagery, Atlas of Australian Soils
COMMENTS:	
COMPILER:	GT, MC, Jan 1986

NAME:	CURDIES
NUMBER:	259
STYLE:	Erosional
BASIC FORM:	Low Plateau
SOILS:	Hard setting, loam or sand with mottled yellow clayey subsoil or mottled dark clayey subsoils; leached sandy soils; yellow leached earths (Dy 3.21,3.41,3.61, Dy3.42, Uc2.3, Gn2.34,1.74)
SOILS ASSOCIATION:	EE1,2; Ub1; Ta2,3; Td6; Cb6; A1; Wa6
DESCRIPTION:	Dissected low plateau on Tertiary limestone and marl. No well defined drainage in many areas; water draining away through numerous sinkholes in the Tertiary limestone. On the inland flanks of the Otways, alluvial fans overlie the plain.
REGOLITH:	Thin veneer of residual clay, calcareous dune rock and dune sand. Sediments of alluvial fans on the inland margin of the unit
GEOLOGY:	Tertiary marine limestones and clays, covered by a thin veneer of residual clay, Pleistocene calcareous dune rock and Recent dunes.
ELEVATION:	0 to 244 m
RELIEF:	Generally 30 to 90 m, some 6 to 30 m
MINOR LANDFORMS:	Vertical cliffs at the coast, 30 to 60 m high, with many rock stacks, natural archs and narrow promentories. Controlled by strong jointing in Tertiary rocks in two directions
BOUNDARIES:	Follow soil map unit boundaries which show some physiographic influence eg. Curdies Creek, Scott Creek, Kennedys Creek, Shansel Creek to NW,NNE. Boundary to south is a physiographic/soil unit boundary.
REFERENCES:	Hills (1975)
TOPOGRAPHIC MAPS:	Hamilton 1:1 m
GEOLOGICAL MAPS:	Colac, Queenscliff 1:250 000; Australia 1:2.5 m
OTHER SOURCES:	CZCS imagery, Atlas of Australian Soils
COMMENTS:	
COMPILER:	GT, MC, Jan 1986

NAME:	GRAMPIANS
NUMBER:	260
STYLE:	Erosional
BASIC FORM:	Mountain range
SOILS:	Hard setting loamy or sandy soils with mottled yellow subsoils; Leptopodsols, lithosols (Uc6.11, Dy5.42)
SOILS ASSOCIATION:	D4; X2; Tb1; Va1
DESCRIPTION:	Mountain range of Devonian - Carboniferous sandstone which forms distinct cuestas. Flat lowlands on Palaeozoic shale, formed by differential erosion of shale. Sandstone forms long strike ridges. Granite intrusions in Victoria Valley and Mt William
REGOLITH:	Alluvium: sand, silt and clay deposits in vales and lowland swamplands. Colluvial deposits and fans developed on dip and scarp slopes. Thick sandy soils in lowlands.
GEOLOGY:	Upper Devonian to Lower Carboniferous sandstones and shales. Devonian granites
ELEVATION:	Up to 1200 m
RELIEF:	150 m plus.
MINOR LANDFORMS:	Cuestas and vales resulting from differential erosion of alternating inclined strata. Lowland swamps in vales. Structural benches developed on scarp slopes.
BOUNDARIES:	Black Range slopes to the west; southern end of Serra Range to the south; Mt Stapyton, Lower east slopes of Mt Williams to the east. Related in part to some units of the Atlas of Australian Soils
REFERENCES:	Hills (1975), Douglas and Fergusson (1976)
TOPOGRAPHIC MAPS:	Hamilton 1:1 m
GEOLOGICAL MAPS:	Hamilton, Ballarat 1:250 000; Australia 1:2.5 m
OTHER SOURCES:	CZCS imagery, Atlas of Australian Soils, Soil Conservation Authority of Victoria Bulletin TC 4.
COMMENTS:	
COMPILER:	GT, MC, Jan 1986

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NAME:	LITTLE DESERT
NUMBER:	261
STYLE:	Depositional
BASIC FORM:	Dune covered sandplain
SOILS:	Sandy soils with mottled yellow clayey subsoils
SOILS ASSOCIATION:	X4
DESCRIPTION:	Plains with areas of dunes and ranges of sand hills.
REGOLITH:	Aeolian sand, weathered and hardened to red-brown sandstone, otherwise loose siliceous sand deposits formed into dunes trending east-west. Lateritised underlying Parilla Sand.
GEOLOGY:	Tertiary aeolian and residual sands over Tertiary marine sandstone, siltstone and mudstone. East west oriented dunes are common only in the east
ELEVATION:	90 m
RELIEF:	Less than 6 m
MINOR LANDFORMS:	North-south trending ancient stranded beach ridges of siliceous sand
BOUNDARIES:	Round Hill swamp to the south; Wimmera River to the east; Naracoote Range to the west; southern limit of Peechember Swamp to the north. Related to soil map unit boundaries
REFERENCES:	Hills (1975), Douglas and Fergusson (1976)
TOPOGRAPHIC MAPS:	Hamilton 1:1 m
GEOLOGICAL MAPS:	Horsham 1:250 000; Australia 1:2.5
OTHER SOURCES:	CZCS imagery, Atlas of Australian Soils
COMMENTS:	
COMPILER:	GT, MC, Jan 1986

NAME:	BIG DESERT
NUMBER:	262
STYLE:	Depositional
BASIC FORM:	Dune covered sandplains
SOILS:	White sand, cracking clays, leached sandy soil, sandy soil with mottled yellow clayey subsoil (Uc2.2; Ug5.2)
SOILS ASSOCIATION:	X4; C2; CC9
DESCRIPTION:	Complex array of east-west trending dunes, unoriented dunes and intervening sandplains. Hummocks of variable dimensions also occur. Unoriented dunes, parabolic and transverse dunes with active crests.
REGOLITH:	Parabolic sand dunes of highly siliceous (<98 % quartz grains) greyish-yellow sand. The underlying plain is composed of calcrete and lateritised Parilla Sand.
GEOLOGY:	Tertiary aeolian, fresh water and marine deposits to a depth of 300 m or more. 'Lowan Sand'
ELEVATION:	90 m
RELIEF:	less than 6 m
MINOR LANDFORMS:	Many ephemeral salt lakes (salinas) with bordering dunes or a lunette on the cresent-shaped eastern shore of the lake.
BOUNDARIES:	Peechember Swamp to the south; Lake Hindmarsh to west of Lake Tyrrell to the east; Mt Rescue to the West; tract between Lameroo and Ouygen forms northern limit of Big Desert and also southernmost limit of Sunset Desert. Related to soil map unit boundaries
REFERENCES:	Hills (1975), Laut and others (1977) [2.3.3], Douglas and Fergusson (1976)
TOPOGRAPHIC MAPS:	Adelaide, Hamilton 1:1 m
GEOLOGICAL MAPS:	Ouyen 1:250 000
OTHER SOURCES:	CZCS imagery, Atlas of Australian Soils, Soil Conservation Authority Bulletin TC 2
COMMENTS:	
COMPILER:	GT, MC, Jan 1986

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NAME:	SUNSET DESERT
NUMBER:	263
STYLE:	Depositional
BASIC FORM:	Dunefields and sandplains
SOILS:	Sand soils with weak profile development, sandy soils with mottled yellow clayey subsoils, highly calcareous loamy earths (Uc5.11,5.12; Dy5.83; Gc1.12)
SOILS ASSOCIATION:	AA1, Yb1, Lb5
DESCRIPTION:	East-west trending dunes, unoriented dunes, and intervening sandplains. Most of the unit has unoriented dunes with narrow interdune corridors
REGOLITH:	Highly siliceous greyish yellow sand. Underlying plain is composed of calcrete
GEOLOGY:	Tertiary aeolian, fresh water, and marine deposits of the Murray Basin
ELEVATION:	50 - 100 m
RELIEF:	Sand ridges 7 to 16 m, otherwise less than 6
MINOR LANDFORMS:	Several large plains of sandy loam (Sunset, Birthday and Mapoke) surrounded by dunefields
BOUNDARIES:	Edge of dunefields (closely related to soil map units)
REFERENCES:	Hills (1975), Laut & others (1977)
TOPOGRAPHIC MAPS:	Adelaide 1:1m
GEOLOGICAL MAPS:	Mildura 1:250 000
OTHER SOURCES:	CZCS imagery, Soil Conservation Authority Bulletin TC2, Atlas of Australian Soils
COMMENTS:	
COMPILER:	GT, MC, DLG, Jan 1986

NAME:	MALLEE
NUMBER:	264
STYLE:	Depositional
BASIC FORM:	Aeolian covered riverine plains
SOILS:	Brown calcareous earths and highly calcareous brown loamy earths; Hard setting loamy soils with red clayey subsoils; cracking clays (Dy5.42, Gc1.12 & .22; Dr2.33)
SOILS ASSOCIATION:	DD1-7; Lb4, P1-7; CC8 & 9
DESCRIPTION:	Very gently undulating, to flat aeolian sand covered depositional plain of the central-southern Murray Basin
REGOLITH:	East-west linear dunes, regularly spaced with cusp-like crests which are consistently steeper on the southern side. Up to four buried paleosols within the dune. Dunes composed of pale to dark reddish-brown calcareous sand with some clay fraction
GEOLOGY:	Surface fluviatile and aeolian deposits underlain by Tertiary marine sediments of the Murray Basin
ELEVATION:	60 to 150 m
RELIEF:	Less than 6 m. Sand ridges 6 to 30 m
MINOR LANDFORMS:	Many ephemeral salt lakes (salinas) with source-bordering dunes or a lunette on the crescent shaped eastern shore of the lake. Gypsum playas formed on extensive ancient lake beds. North-south ancient stranded beach ridges of siliceous sand weathering and hardening on the surface to a red-brown sandstone
BOUNDARIES:	To the south the dark grey clay plains of the Wimmera; to the west the Big, Little & Sunset Deserts; to the east the Gredgwin Ridges near the Loddon River. Boundaries are closely related to soil map units
REFERENCES:	Blackburm (1959), Hills (1975)
TOPOGRAPHIC MAPS:	Hamilton, Adelaide 1:1 m
GEOLOGICAL MAPS:	Mildura, Ouyen, Swan Hill, Horsham 1:250 000; Australia 1:2.5 m
OTHER SOURCES:	CZCS imagery, Atlas of Australian Soils, Soil Conservation Authority Bulletin TC 2
COMMENTS:	
COMPILER:	GT, MC, Jan 1986

NAME:	BENDIGO
NUMBER:	265
STYLE:	Erosional
BASIC FORM:	Dissected or undulating highlands
SOILS:	Hard setting loamy soils with mottled yellow clayey subsoils (Dy3.41); Hard setting loamy soils with red clayey subsoils (Dy3.41 & .42, Dr2.22 & .32 & .21, Dy 2.21, Dr2.22)
SOILS ASSOCIATION:	Tb1; S1; Va1; Pb3
DESCRIPTION:	An elevated highlands region with undulaitng hills and residual mountain masses of resistant rock. Newer volcanic eruptions (200 centres recognized) generated mamelons, small strato-volcanoes and scoria cones.
REGOLITH:	Deep weathering profiles in places
GEOLOGY:	Mostly, extensive lower Palaeozoic sediments, volcanics, intrusives. Minor cover by Tertiary fluvial sediments (sandstone, conglomerate), and by Cainozoic clay, silt, and minor residual and some alluvial deposits. Some Quaternary basalts, minor pyroclastics. Sub-basaltic siliceous sediments are rare.
ELEVATION:	20 to 380 m but up to 1200 m on mountains
RELIEF:	90 to 180 m
MINOR LANDFORMS:	Crater lakes in maars and calderas.
BOUNDARIES:	The Camel's Hump, Mt Macedon to Tallorook to the southeast; approx 200 m elevation contour on Murray Basin plain to north; Wimmera plain to the northwest; Grampians to the west; Mt Weejort to the south, and Southern slopes of Dividing Range towards Rokewood. Essentially follows soil map boundaries
REFERENCES:	Hills (1975)
TOPOGRAPHIC MAPS:	Hamilton, Melbourne 1:1 m
GEOLOGICAL MAPS:	St Arnaud, Bendigo, Ballarat 1:250 000
OTHER SOURCES:	CZCS imagery, Atlas of Australian Soils
COMMENTS:	
COMPILER:	GT, MC, Jan 1986

NAME:	GWABEGAR
NUMBER:	266
STYLE:	Depositional
BASIC FORM:	Plain
SOILS:	Sandy soil with mottled yellow clayey subsoils (Dy5.43; Dy5.42); Hard setting loamy soils with red clayey subsoils (Dr2.32)
SOILS ASSOCIATION:	Ya25; X11; OC12
DESCRIPTION:	Flat to undulating terrain with southern portion comprising slopes approaching Warrumbungle Range.
REGOLITH:	Extensive black soil plains (minor red clay soils); plastic and expanding clay soils derived from weathering volcanics. Alluvial sand, silt, clay and some gravel
GEOLOGY:	Cretaceous shale, sandstone, siltstone and limestone. Cainozoic alluvial, colluvial, lacustrine and marine sand, clay, silt and gravel
ELEVATION:	150-220 m
RELIEF:	10-50 m
MINOR LANDFORMS:	Minor river courses, sandy terraces; eroded remnants of Warrumbungle range
BOUNDARIES:	Cattabri-Kenebri to east; Billiga-Gilgooma to west on Walgett plain; Namoi River to north-northwest; Teridgerie Creek to the south southwest. Defined by CZCS pattern and soil map boundaries
REFERENCES:	Packham (1969), Jensen (1906, 1907)
TOPOGRAPHIC MAPS:	Bourke 1:1 m
GEOLOGICAL MAPS:	Australia 1:2.5 m
OTHER SOURCES:	CZCS imagery, Atlas of Australian Soils
COMMENTS:	
COMPILER:	GT, MC, Jan 1986

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NAME:	MORNINGTON
NUMBER:	267
STYLE:	Erosional
BASIC FORM:	Hilly to mountainous rocks separated by coastal plains
SOILS:	Soils of minimal development (Uc 1); leached sandy soils (Uc 2), Plastic clay (Uf 6), Red friable porous earth (Gn 4.11), Dark friable porous earth (Gn 4.41), Hard setting soil with yellow mottled clayey subsoil (Dy 3.21, 3.42).
SOILS ASSOCIATION:	Tb1-21; Cb9,15,23; Mg7,2; I3; Ub20,23; Rg1; A4; Ca5, B7; Wc5; M11
DESCRIPTION:	Hilly to mountainous tracts separated by sunken coastal plains
REGOLITH:	Alluvial deposits consisting of sand, silt and clay; minor colluvium; aeolian sand along coastal fringe.
GEOLOGY:	Complex of Mesozoic fault blocks, Palaeozoic granite and sediments, minor patches of alluvium. Cainozoic sand and gravel ('Piedmon & Downs' - Talent, 1969).
ELEVATION:	Less than 200 to 460 m
RELIEF:	20-300 m
MINOR LANDFORMS:	Floodplains and minor floodplain features; minor river terraces; coastal dunes and swamps, cliffs etc.
BOUNDARIES:	Bass Strait to the south; Dividing range southern slopes to the north; Port Phillip Bay to the west; Hymn and Hedly to the east: essentially physiographic boundaries.
REFERENCES:	Hills (1975)
TOPOGRAPHIC MAPS:	Melbourne 1:1 m
GEOLOGICAL MAPS:	Queenscliff, Warragul, Melbourne 1:250 000
OTHER SOURCES:	CZCS imagery, Atlas of Australian Soils
COMMENTS:	
COMPILER:	GT, MC, Jan 1986

NAME:	SALE
NUMBER:	268
STYLE:	Erosional
BASIC FORM:	Coastal Plains
SOILS:	Hard setting loamy soil with mottled yellow clayey subsoil; Sandy soils with mottled yellow clayey subsoils. Organic peat soil. (Dy 3.42 & .43, Dy 5.41 & .42, Uf 6)
SOILS ASSOCIATION:	Tb14, 18; X8; Ub29; Wa4; Cb14; Va3; 25; I2; Ca4
DESCRIPTION:	Coastal Plains underlain by marine Tertiary rocks, also erosional and alluvial plains. Pleistocene serial sand ridges cover much of the plain. The lakes of the Gipsland Lakes system lie behind the beach-barrier system of Ninety-Mile beach.
REGOLITH:	Alluvial deposits (sand, silt, clay) in central portion. Colluvial deposits approaching the Dividing Range and aeolian sands along coastal fringe of unit. Lacustrine, tidal flat and marsh deposits, deltaic deposits, and barrier and bay deposits
GEOLOGY:	Tertiary and Quarternary lagoonal deposits. Tertiary marine sediments
ELEVATION:	0 to 200 m
RELIEF:	Less than 6 m to 30 m
MINOR LANDFORMS:	Lakes and lagoons; swamps and fluvial floodplains and associated landforms; coastal landforms and dune systems. Deltaic landforms
BOUNDARIES:	Basically area between the 200 m contour and the coast. CZCS imagery pattern also used. Bass Strait and Tasman sea to south. Great Dividing range to north
REFERENCES:	Hills (1975), Douglas and Fergusson (1976)
TOPOGRAPHIC MAPS:	Melbourne 1:1 m
GEOLOGICAL MAPS:	Warragul, Sale, Bairnsdale 1:250 000
OTHER SOURCES:	CZCS imagery, Atlas of Australian Soils
COMMENTS:	
COMPILER:	GT, MC, Jan 1986

NAME:	WIMMERA
NUMBER:	269
STYLE:	Depositional
BASIC FORM:	Depositional plains of the Murray system
SOILS:	Dark grey cracking clays (Ug5.2); Coherent sandy soils (Uc 6); Sandy soils with mottled yellow clayey subsoils (Dy 5. 42)
SOILS ASSOCIATION:	CC4, 8, 9; X5; D3
DESCRIPTION:	Flat to very gently undulating depositional plain of the southern Murray Basin, characterised by dark grey clay soils with gilgai
REGOLITH:	Aeolian sand sheets and sand ridges; fluvial sand, silt clay; Siliceous lateritised red brown sands; some caliche development, sandy clays, gypsum, halite
GEOLOGY:	Beneath young fluviatile sediments lie marine Tertiary sedimentry rocks of the Murray Basin. Beneath these sedimentary cover rocks is a basemnt of Paleozoic sediments and granites.
ELEVATION:	90 to 180 m
RELIEF:	Less than 6 m
MINOR LANDFORMS:	North-south siliceous sand ridges weathering and hardening on surface to a red-brown sandstone are an ancient sequence of stranded beach ridges. Numerous small lakes (salinas) with lunettes on the eastern shore. Dunes of deep siliceous sand occur close to some creek and river channels
BOUNDARIES:	Boundary with Mallee country defined by soils and vegetation. Wimmera is grey clay and Savannah woodland; Mallee is sandy soils and mallee. Bounded to the south by bedrock outcrops of the Highlands; to the west by the valley of the Glenelg and its tributaties and to the east the western edge of the flood plain of the Lodden river - physiographic boundaries to southeast but soil map unit boundaries elsewhere
REFERENCES:	Blackburn (1959), Hills (1975)
TOPOGRAPHIC MAPS:	Hamilton, Adelaide 1:1 m
GEOLOGICAL MAPS:	Australia 1:2.5 m
OTHER SOURCES:	Atlas of Australian Soils
COMMENTS:	
COMPILER:	GT, MC, Jan 1986

NAME:	LAMINGTON
NUMBER:	270
STYLE:	Volcanic
BASIC FORM:	Basalt plateaux and plateau remnants
SOILS:	Dark cracking clays (Ug5.4, 5.16). Dark friable porous earths (Gn4.41,4.42, 4.11). Red sandy soils with mottled yellow clayey subsoils (Dy 5.61).
SOILS ASSOCIATION:	M12; Wc6; Mg27; NN1; Kf1.
DESCRIPTION:	A dissected basalt plateau resulting in several plateaux and plateau remnants. The plateau surface is undulating to hilly with some steep slopes and scarps. The plateau edge has steep slopes, often slumped, with small floodplains along the incised stream valleys
REGOLITH:	Tertiary diatomite and common and precious opal associated with volcanics. Expansive red and black clay soils; colluvial deposits at foot of steeper slopes. Alluvial deposits and small floodplains in river valleys, some terraces
GEOLOGY:	Tertiary basalt flows overlying lithic and quartz sandstone, siltstone, shale of the Clarence-Morton Basin (Jurassic-Cretaceous)
ELEVATION:	0-1204 m
RELIEF:	180 to over 1000 m
MINOR LANDFORMS:	Steep narrow stream valleys. Part of overall radial drainage network on shield pile. Numerous minor landslips on steep slopes composed of clay rich soils derived from weathered basalts and associated volcanics
BOUNDARIES:	Based on CZCS imagery, soils and topographic boundaries: Richmond-MacPherson Ranges to the west; Tweed-MacPherson Range to the east
REFERENCES:	Markham and Basden (1974), Skeats (1914), Relph (1958), Packham (1969)
TOPOGRAPHIC MAPS:	Armidale 1:1 m
GEOLOGICAL MAPS:	Australia 1:2.5 m
OTHER SOURCES:	CZCS imagery, Atlas of Australian Soils
COMMENTS:	
COMPILER:	MC, GT Jan 1986

NAME:	CLARENCE
NUMBER:	271
STYLE:	Erosional
BASIC FORM:	Hilly coastal uplands
SOILS:	Hard setting loamy soils with mottled yellow clayey subsoils (Dy 3.41); Sandy soils with mottled yellow clayey subsoils (Dy 5.61); Friable loamy soils (Um 6.11); Cracking clays (Ug 5.4, 5.16); Friable loams with clay subsoil (Dg 4.11); Calcareous sands (Uc 01.1)
SOILS ASSOCIATION:	Tb55-6; We8; Gb14, NN1; Ny1; Ag9
DESCRIPTION:	Undulating to hilly coastal uplands with some areas of steep hilly to rugged terrain. Intervening valleys and swampy areas in undulating areas, and steep-sided valleys in more rugged terrain
REGOLITH:	Ironstone gravels. Diatomite, with porcellaneous and opaline gradations, talus slopes. Extensive alluvial deposits near coastal region. Alluvium consists mostly of silt but with some boulder beds. Dune and beach sands rich in heavy minerals comprise coastal zone. 9m thick beachrock
GEOLOGY:	Lithic and quartz sandstone, siltstone, shale of the Clarence-Moreton Basin (Jurassic-Cretaceous)
ELEVATION:	0 to 650 m
RELIEF:	5-450 m
MINOR LANDFORMS:	Talus slopes, river floodplain and associated landforms, coastal dunes; swamps and lakes; beach sand dunes and rock platforms and other associated coastal landforms
BOUNDARIES:	The coast from Woolgoolga to Byron Bay. Foothills of Bushmans and Gibraltar Ranges west of Clarence River. Boundary is primarily physiographic with influence from combined soil map units
REFERENCES:	Packham (1969), Markham & Basden (1974)
TOPOGRAPHIC MAPS:	Armidale 1:1 m
GEOLOGICAL MAPS:	Australia 1:2.5 m
OTHER SOURCES:	CZCS imagery, Atlas of Australian Soils
COMMENTS:	
COMPILER:	GT, MC, Jan 1986

NAME:	MOLE
NUMBER:	272
STYLE:	Erosional
BASIC FORM:	Plateaus
SOILS:	Leached sand soils (Uc 2.3). Hard setting soils with mottled yellow clayey subsoils (Dy 3.42)
SOILS ASSOCIATION:	Cb30; Ub54
DESCRIPTION:	Planation surface cutting across Mole granite and Permo-Carboniferous sedimentry rocks forming the Mole, McKenzie and Bolivia plateaus. The plateaux are relatively small and undissected with a steep break between plateaus and surrounding slopes
REGOLITH:	Weathered kaolinised granite; granite saprolite and grus mantles; sandy alluvial deposits; deep leads of economic value
GEOLOGY:	Permian Mole granite and Permo-Carboniferous sediments
ELEVATION:	Plateaux 1000 m
RELIEF:	500 m
MINOR LANDFORMS:	Tors and large scale joint blocks
BOUNDARIES:	Physiographic and soil map unit boundary. Sugarloaf Mountain and Mosman Peak; Mt Mackenzie and Bolivier Hill. Areas is bounded by Beardy and Dumaresque Rivers and Tenterfield, as well as Mole and Deepwater Rivers.
REFERENCES:	Ollier (1984), Andrews (1903), Packham (1969)
TOPOGRAPHIC MAPS:	Armidale 1:1 m
GEOLOGICAL MAPS:	Australia 1:2.5 m
OTHER SOURCES:	CZCS imagery, Atlas of Australian Soils
COMMENTS:	
COMPILER:	GT, MC, Jan 1986

NAME:	LOUTH
NUMBER:	273
STYLE:	Erosional/Depositional
BASIC FORM:	Plain with occasional hills
SOILS:	Brown Calcareous earths (alkali trends) Gn 2.13
SOILS ASSOCIATION:	Mx1-8
DESCRIPTION:	Plains with isolated hills, rare sand ridges, clay plains, alluvial plains and floodplains Generally area is low relief and undulating; some internal drainage
REGOLITH:	Silicified conglomerate, quartzite, porcellanite (grey billy or silcrete); sand and gravel, aeolian sands, clayey sand and loams, clayey silt. Some pisolitic textured siliceous rocks. Sand plains: red sand and silt with kopi and kunkar; some sand ridges rich with clay. Clayey red loam floodplain and alluvial deposits
GEOLOGY:	Cambro-Ordovician metamorphics, quartzite; Ordovician sediments; Devonian sediments; Upper Devonian- Lower Carboniferous sandstone, siltstone, chert. Cretaceous sandstone, siltstone, mudstone. Cainozoic alluvial, colluvial, and lacustrine sand, silt, clay and gravel. Aeolian and residual quartz sands. Silcrete, evaporites
ELEVATION:	Less than 200 to 497 m
RELIEF:	5-300 m
MINOR LANDFORMS:	Isolated hills on plain; clay pans; sand ridges; floodplains
BOUNDARIES:	Based on soil map unit boundary and influence by physiographic region
REFERENCES:	Packham (1969), Brunker (1968)
TOPOGRAPHIC MAPS:	Bourke 1:1 m
GEOLOGICAL MAPS:	Australia 1:2.5 m
OTHER SOURCES:	Atlas of Australian Soils
COMMENTS:	
COMPILER:	MC, GT Jan 1986

NAME:	MILVALE-FORBES
NUMBER:	274
STYLE:	Erosional-depositional
BASIC FORM:	Hillyplains
SOILS:	Cracking clays (Ug 5.15, 5.16, 5.24, 5.25), Hard setting loams with red clay subsoil (Dr 2.22, Dr 2.33), Red earths (Gn 2.11, 2.12, Gn 2.15), Yellow earths (Gn 2.21), Hard setting loams with lower clayey subsoils (Db 1.22)
SOILS ASSOCIATION:	Ob11-13; My11; Oc9-13; Mu1; Ra3; My13; Ms1; CC16
DESCRIPTION:	Rolling hills and plains with occasional swamps on wide floodplains
REGOLITH:	Mainly alluvium and floodplain clays, silt, sands with rarer gravels; some lacustrine silt and clays. Tallus slopes coalescing (Bahadas)
GEOLOGY:	Palaeozoic sedimentary rock, various acid and basic volcanics, metamorphics and intrusives. Cainozoic alluvium, and lacustrine sand, silt, clay and gravels.
ELEVATION:	200-500 m
RELIEF:	20-300 m
MINOR LANDFORMS:	Volcanic neck remnant in the vicinity of Warrumbungle area. Floodplains and associated minor landforms
BOUNDARIES:	In part, related to CZCS image patterns, soil map unit boundaries and physiographic regions. Harveys and Sappa Bulga Ranges to the east; Gunning Range-Bold Hill to the south; Warrumbungles to the northeast
REFERENCES:	Basden and others (1974), Packham (1969)
TOPOGRAPHIC MAPS:	Canberra, Bourke 1:1 m
GEOLOGICAL MAPS:	Australia 1:2.5 m
OTHER SOURCES:	CZCS imagery, Atlas of Australian Soils
COMMENTS:	
COMPILER:	MC, GT, Jan 1986

NAME:	HARDEN
NUMBER:	275
STYLE:	Erosional
BASIC FORM:	Undulating slopes
SOILS:	Red Earths (Gn 2.15, 2.14); Hard setting loamy soils with mottled yellow clayey subsoil (Dy 3.42); Hard setting loamy soil with red clayey subsoil (Dr 2.12; 2.22)
SOILS ASSOCIATION:	Mu1; Ub42,40; Pb8; Mw15; Qb8
DESCRIPTION:	Undulating to rolling country with some hilly ridges and knolls dotted with tors.
REGOLITH:	Alluvial clay deposits in Harden district (refractory grade). Diamondiferous alluvial deposits as well as sapphire bearing gravel; plentiful commercial sand and gravel deposits of the Murrumbidgee River near Jugiong
GEOLOGY:	Cambro-Ordovician metamorphics, quartzites, metabasalt; Lower Devonian sediments, volcanics, granitic intrusives; Devonian ultramafics; Silurian volcanics and granitic intrusives
ELEVATION:	500-800 m
RELIEF:	300 m
MINOR LANDFORMS:	Isolated hills, tors
BOUNDARIES:	Primarily determined by CZCS imagery patterns but influenced by soil map unit boundries. Little physiographic influence. Honeysuckle to Crowther Range t6o the southwest; northwest slopes of Mundoonan Range to the east
REFERENCES:	Basden and others (1974), Packham (1969)
TOPOGRAPHIC MAPS:	Canberra 1:1 m
GEOLOGICAL MAPS:	Australia 1:2.5 m
OTHER SOURCES:	CZCS imagery, Atlas of Australian Soils
COMMENTS:	
COMPILER:	GT, MC, Jan 1986

NAME:	MITCHELL
NUMBER:	276
STYLE:	Erosional
BASIC FORM:	Range country and sloping plain
SOILS:	Red Earths (Gn 2.11, 12.14, 15); Yellow Earths (Gn 2.21); Friable Red Earths (Gn 3.12); Hard setting loamy soil with mottled yellow clayey subsoil (Dy 3.14, 3.42); Hard setting loamy soils with red clayey subsoils (Dr 2.41, 2.22; Dr 4.12)
SOILS ASSOCIATION:	My11; Ms1; Ms2; Mu8; Mw12; Mo3; Ub51,43-40,45; Qb17,16; Qr1; Pd4;
DESCRIPTION:	Rolling to steep hilly range country. Tors and gravelly ridges, rock outcrops. Narrow undulating valleys.
REGOLITH:	Diatomaceous earth, deep leads and laterites beneath Tertiary basalts. Miocene surface at about 600 m at Wellington. Alluvial deposits of Lachlan-Maquarie River systems; terraces: sand silt gravels and clays. Red and black-brown plastic expansive clays derived from weathering volcanics. Rubies in deep leads near Wellington. Diamonds found but no deep lead affinity
GEOLOGY:	Ordovician intermediate and basic volcanics, sediments. Ordovician-Silurian sediments. Silurian acid volcanics and granitic intrusives. Lower Devonian acid and intermediate volcanics, granitic intrusives. Jurassic sandstone, siltstone, mudstone. Tertiary fluvial sandstones, conglomerate. Tertiary basalt with minor acid volcanics
ELEVATION:	300-900 m
RELIEF:	100-400 m
MINOR LANDFORMS:	Residual hills and cuestas; minor landslips; colluvial fans
BOUNDARIES:	Composite boundaries guided by CZCS imagery patterns and groups of soil map units with physiographic units of lesser influence. Waraderry, Harveys and Sappa Bulga Ranges to the west. Various hills and ridges between Boorwa-Orange-Wellington townships to the east. Mundoonen Range to the south. Macquarie River to the north.
REFERENCES:	Packham (1969), Markham and Basden (1974)
TOPOGRAPHIC MAPS:	Canberra 1:1 m
GEOLOGICAL MAPS:	Australia 1:2.5 m
OTHER SOURCES:	CZCS imagery, Atlas of Australian Soils
COMMENTS:	
COMPILER:	MC, GT Jan 1986

NAME:	BINNAWAY
NUMBER:	277
STYLE:	Erosional/Volcanic
BASIC FORM:	Mountainous and rugged hills
SOILS:	Red Earths (Gn 2.11); Yellow Earths (Gn 2.21); Friable loamy soils (Um 6.11); Cracking clays (Ug 5.12, 5.15, 5.16)
SOILS ASSOCIATION:	Mz2; Ms1; Gb11; Ke9; Kd3
DESCRIPTION:	Hilly to rugged terrain merging into mountainous terrain highly dissected and eroded in area of Warrumbungle volcanic complex
REGOLITH:	Alluvium: sand and pebbles overlain by beds of black soil, sand and sandy loam with clay. High level sandy clay alluvial terraces of castle Castlereagh River. Alluvial fan deposits on very steep slopes. Various red and black sandy sand clay and loam soils developed on sediments or volcanics
GEOLOGY:	Middle Palaeozoic acid intrusives and sediments. Jurassic intermediate and basic volcanics and sediments. Triassic-Jurassic sediments. Tertiary basalts and minor acid volcanics. Cainozoic alluvium, colluvium
ELEVATION:	400-1000 m
RELIEF:	100-400 m
MINOR LANDFORMS:	Residual hills associated with volcanics of Warrumbungle Mountains and Ranges; deeply dissected stream valleys, colluvial fans, landslips, alluvial terraces
BOUNDARIES:	Determined, in part, by soil map unit boundaries in combination with CZCS imagery patterns and to a much lesser extent by physiographic elements. Macquarie River to thesouth; Dividing Range to the southeast; Warrumbungle Range to the northwest; Wallumburrawang Creek to the west and northwest
REFERENCES:	Packham (1969), Kenny (1963)
TOPOGRAPHIC MAPS:	Canberra and Bourke 1:1 m
GEOLOGICAL MAPS:	Australia 1:2.5 m
OTHER SOURCES:	CZCS imagery, Atlas of Australian Soils
COMMENTS:	
COMPILER:	MC, GT Jan 1986

NAME:	SNOWY RIVER
NUMBER:	278
STYLE:	Erosional
BASIC FORM:	Steep sided V-shaped gorge
SOILS:	Duplex soils, loamy hard setting with red clayey subsoils (Dr 2.21); Brown friable porous earths (Gn 4.31); loamy soils (Um 4.2)
SOILS ASSOCIATION:	Pb4; Mh; LL1
DESCRIPTION:	Mountainous with deeply incised gorge of Snowy River
REGOLITH:	Colluvium and alluvium (sand, silt, gravels and minor clay). Granite saprolite, and grus mantles. Red and brown plastic clays associated with weathered volcanics
GEOLOGY:	Ordovician-Silurian slate, siltstone, chert, phyllite, sandstone, conglomerate. Lower Devonian granite, acid and intermediate volcanics. Silurian granite. Tertiary basalt, minor acid volcanics
ELEVATION:	180-1500 m
RELIEF:	250-1000 m
MINOR LANDFORMS:	Steep narrow river valleys and alluvial plains
BOUNDARIES:	Boundaries derived from CZCS imagery, and physiographic setting of Snowy River Gorge. Suggan Bugan and Charcoal Ranges to the northwest; Mt Deddick and parts of Dividing Range to the east and northeast
REFERENCES:	Packham (1969)
TOPOGRAPHIC MAPS:	Melbourne 1:1 m
GEOLOGICAL MAPS:	Australia 1:2.5 m
OTHER SOURCES:	CZCS imagery, Atlas of Australian Soils
COMMENTS:	
COMPILER:	MC, GT Jan 1986

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NAME:	WEST WYALONG
NUMBER:	279
STYLE:	Erosional
BASIC FORM:	Gently undulating hills and plains
SOILS:	Red Earths (Gn 2.12; 15); Hard setting loamy soil with red clayey subsoils (Dr 2.22; 32; 33), Hard setting loamy soils with mottled yellow clayey subsoils (Dy 3.43)
SOILS ASSOCIATION:	Qb7; Ra3; Mu1; My11,9; Oc9; Va18; Qc3
DESCRIPTION:	Gently undulating hilly plains with occassional isolated higher hills
REGOLITH:	Thick alluvial deposits of major rivers at Gundagai; minor alluvial terraces and flats along creeks
GEOLOGY:	Cambro-Ordovician metamorphics. Ordovician sandstone, siltstone, quartzite, slate, conglomerate, granite, acid volcanics. Lower Devonian granites, sandstone, siltstone, shale, ultramafics. Upper Devonian-Lower Carboniferous sandstone, siltstone, shale, chert, limestone, phyllite, schist. Cainozoic alluvial colluvial and lacustrine, sands, silts, clays and gravels
ELEVATION:	200-765 m
RELIEF:	200-300 m
MINOR LANDFORMS:	Isolated hills on undulating hilly plain. Minor floodplains and floodplain landforms
BOUNDARIES:	Primarily delineated by CZCS imagery pattern, with little influence from soil map units or physiographic units
REFERENCES:	Packham (1969), Basden and others (1974)
TOPOGRAPHIC MAPS:	Canberra 1:1 m
GEOLOGICAL MAPS:	Australia 1:2.5 m
OTHER SOURCES:	CZCS imagery, Atlas of Australian Soils
COMMENTS:	
COMPILER:	MC, GT Jan 1986

NAME: WYANDRA
NUMBER: 280
STYLE: Depositional
BASIC FORM: Plains
SOILS: Red earths (Gn2.12)
SOILS ASSOCIATION: My4
DESCRIPTION: Plains with occasion low sand dunes, interspersed with lower lying areas of claypans marking a disintegrated prior drainage systems
REGOLITH: Sand - probably originally alluvial, but with aeolian reworking. Alluvial/lacustrine clay and silt in claypans
GEOLOGY: Cretaceous sediments of the Eromanga Basin, overlain by Cainozoic units
ELEVATION: ? - 290
RELIEF: Low - very low
MINOR LANDFORMS:
BOUNDARIES: Active drainage of Warrego unit to west and south. Boundary with Charleville unit to northeast is from CZCS imagery, and result of presence of silcrete rubble in the latter unit
REFERENCES: Gunn & Galloway (1978), Mabbutt (1969)
TOPOGRAPHIC MAPS:
GEOLOGICAL MAPS: Wyandra, Charleville 1:250 000; Central Eromanga, Northern Surat Basin 1:1m
OTHER SOURCES: CZCS imagery, CSIRO Land Research Series No 34
COMMENTS:
COMPILER: DLG, GT, Nov 1985

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NAME: COLLARENEBRI
NUMBER: 281
STYLE: Depositional
BASIC FORM: Plains
SOILS: Red Earths (Gn 2.12), Cracking clays (Ug 5.24, 25), Hard setting loamy soils with red clayey subsoils (Dr 2.33)
SOILS ASSOCIATION: My3; CC17; Oc21
DESCRIPTION: Extensive flat plains with numerous river courses and floodplains throughout
REGOLITH: Thick alluvial deposits: sand, silt, clay and gravel. Black, grey and red plastic and expanding clay soils
GEOLOGY: Cretaceous shale, siltstone, sandstone, limestone. Cainozoic aeolian and residual quartz sand, alluvial, colluvial and lacustrine sand, silt, clay and gravel
ELEVATION: Less than 200 m
RELIEF: Less than 5 m
MINOR LANDFORMS: Floodplain landforms
BOUNDARIES: Primarily defined by CZCS imagery patterns and soil map unit boundaries. Little influence from physiographic units: Barwon River and annabranches to the east; Sparkes, Warrambool, Moonie Rivers to the west
REFERENCES: Packham (1969)
TOPOGRAPHIC MAPS: Bourke 1:1 m
GEOLOGICAL MAPS: Australia 1:2.5 m
OTHER SOURCES: CZCS imagery, Atlas of Australian Soils
COMMENTS:
COMPILER: MC, GT Jan 1986

NAME:	FINKE
NUMBER:	282
STYLE:	Depositional
BASIC FORM:	Floodplain
SOILS:	Grey siliceous loams & grey self-mulching cracking clays (Ug 5.24, 5.25, 5.28), Crusty loamy soils with red clayey subsoils (Dr 1.33)
SOILS ASSOCIATION:	B59; CC112,10; Nb26
DESCRIPTION:	A broad floodplain with anastamosing channels, partly overlain by dunes
REGOLITH:	Alluvial and residual sand and silt; aeolian sand
GEOLOGY:	Cretaceous shale, siltstone, sandstone, limestone. Cainozoic aeolian and residual-quartz sand; alluvial, colluvial, and lacustrine sand, silt, clay and gravel. Quaternary gypsum, halite and clay
ELEVATION:	150 m
RELIEF:	<6 m
MINOR LANDFORMS:	Linear N-S dune systems and 'y' shaped dune systems
BOUNDARIES:	Mainly physiographic; determined by edge of sand plain to west and interrupted dune pattern to east. The Macumba River to the south. Some influence from Laut's boundaries
REFERENCES:	Laut and others (1977) [8.4.11]
TOPOGRAPHIC MAPS:	Oodnadatta 1:1 m
GEOLOGICAL MAPS:	Australia 1:2.5 m
OTHER SOURCES:	
COMMENTS:	
COMPILER:	MC, GT Jan 1986

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NAME:	BOOGARA
NUMBER:	283
STYLE:	Depositional
BASIC FORM:	Flat to undulating plain
SOILS:	Red Earths (Gn 2.12), Siliceous sands (Uc 1.2), Cracking clays (Ug 5.24; 25), Hard setting loamy soils with brown clayey subsoils (Db .33, 43)
SOILS ASSOCIATION:	My3; B10; CC17; R04; Si2; Wa13
DESCRIPTION:	Undulating terrain with low rises and isolated hills above plains approaching floodplains of the Barwar, Moonie and Macintyre River systems
REGOLITH:	Silcrete outcrops. Thick alluvial and aeolian quartz sand deposits, ferruginous, aluminous and silceous duricrusts
GEOLOGY:	Cretaceous shale, siltstone, sandstone, limestone. Cainozoic aeolian and residual quartz sand; alluvial, colluvial, and lacustrine sand, silt, clay and gravel; ferruginous, aluminous and siliceous duricrust
ELEVATION:	up to 330 m
RELIEF:	Less 50 m
MINOR LANDFORMS:	Floodplains and associated landforms
BOUNDARIES:	Essentially physiographic unit boundaries with some influence from soil map units
REFERENCES:	Gunn & Galloway (1978)
TOPOGRAPHIC MAPS:	Bourke, Armidale 1:1 m; Goondiwindi, St George 1:250 000
GEOLOGICAL MAPS:	Australia 1:2.5 m
OTHER SOURCES:	CSIRO Land Research Series No 34, Landsat imagery, CZCS imagery, Atlas of Australian Soils
COMMENTS:	
COMPILER:	MC, GT Jan 1986

NAME:	UNDULLA
NUMBER:	284
STYLE:	Depositional?
BASIC FORM:	Plains
SOILS:	Cracking clays (Ug 5.24, 25), Brown self mulching clays (Ug 5.32, 34, 37, 38); Hard setting loamy soil with red clayey subsoil (Dr 2.33), Hard setting loamy soils with brown clayey subsoils (Db 1.33)
SOILS ASSOCIATION:	RO4; MM2; Oc21; CC20
DESCRIPTION:	Gently undulating cracking clay plains with moderate to strong (75 cm) gilgai micro-relief
REGOLITH:	Silcrete pavement, coarse nodular laterite, weathering profile (Yuleba Hardpan)
GEOLOGY:	Cretaceous shale, siltstone, sandstone, limestone. Cainozoic aeolian and residual quartz sand; alluvial, colluvial, and lacustrine: sand, silt, clay and gravel; ferruginous, aluminous and siliceous duricrust. Tertiary fluvial sand and conglomerate
ELEVATION:	280 to 300 m
RELIEF:	5-50 m
MINOR LANDFORMS:	Floodplains and associated landforms
BOUNDARIES:	Primarily based on soil map unit boundaries but also influenced by CZCS imagery patterns and to a lesser extent physiographic boundaries. Christmas Creek to the west; Monnie River to the south; Balonne River to the north;
REFERENCES:	Van Dijk & Beckmann (1978), Gunn & Galloway (1978)
TOPOGRAPHIC MAPS:	Charleville, Brisbane 1:1 m; Surat & Dalby 1:250 000
GEOLOGICAL MAPS:	Australia 1:2.5 m
OTHER SOURCES:	CSIRO Land Research Series No 34, Landsat imagery, CZCS imagery, Atlas of Australian Soils
COMMENTS:	
COMPILER:	MC, GT Jan 1986

NAME:	NOONA
NUMBER:	285
STYLE:	Erosional
BASIC FORM:	Plains
SOILS:	Cracking clays (Ug 5.32, 33, 34; 37, 38); Hard setting loamy soils with brown clayey subsoils (Db 1.43, 33); Loamy proto soil (Um 1.4); Red earths (Gn 2.120; Hard setting loamy soils with red clayey subsoils (Dr 2.33)
SOILS ASSOCIATION:	MM4; R04; F21, My3; Oc21
DESCRIPTION:	Gently undulating plains with occasional high ridges and cuesta like scarps
REGOLITH:	Often surface scattering of ironstone gravel. Some ferruginous rock outcrops
GEOLOGY:	Cretaceous shale, siltstone, sandstone, limestone. Cainozoic aeolian and residual quartz sand; alluvial, colluvial and lacustrine sand, silt, clay and gravel; ferruginous, aluminous and siliceous duricrust. Tertiary fluvial sandstone, conglomerate
ELEVATION:	200-425 m
RELIEF:	5-50 m
MINOR LANDFORMS:	Mostly minor floodplains and associated landforms near edges of units; small alluvial deposits associated with creeks. Isolated hills on plains.
BOUNDARIES:	Primarily determined by soil map unit boundaries; some composite, boundaries with influence from physiographic units and CZCS imagery: Balonne River to the north and northwest; Christmas Creek and Thomby Range to the east; Monnie River to the south
REFERENCES:	Gunn & Galloway (1978)
TOPOGRAPHIC MAPS:	Charleville 1:1 m, Surat 1:250 000
GEOLOGICAL MAPS:	Australia 1:2.5 m
OTHER SOURCES:	CSIRO Land Research Series No 34, Landsat imagery, CZCS imagery, Atlas of Australian Soils
COMMENTS:	
COMPILER:	GT, MC, Jan 1986

NAME:	BEARDMORE
NUMBER:	286
STYLE:	Depositional
BASIC FORM:	Plains
SOILS:	Siliceous sands (Uc1.2); Cracking clays (Ug5.24, 5.25). Hard setting loamy soils with red clayey subsoils (Dr 2.33)
SOILS ASSOCIATION:	OC21; CC20; B10
DESCRIPTION:	Very gently undulating plains or occasional low flat terraces fringing drainage lines
REGOLITH:	Alluvial deposits associated with major river courses, and aeolian and residual quartz sand mantles
GEOLOGY:	Cretaceous shale, sandstone, siltstone, limestone. Cainozoic aeolian and residual quartz sand
ELEVATION:	210-250m
RELIEF:	5-50 m
MINOR LANDFORMS:	Low dunes, sandy banks and flat sandy rises slightly elevated above plain and along major drainage lines
BOUNDARIES:	Determined essentially by soil map unit boundaries and physiographic units. A triangular region bounded by Maranoa River to the west-southwest and Balonne River to the east-southeast
REFERENCES:	
TOPOGRAPHIC MAPS:	Charleville 1:1 m, Surat, Homeboin 1:250 000
GEOLOGICAL MAPS:	Australia 1:2.5 m
OTHER SOURCES:	CSIRO Land Research Series No 34, Landsat imagery, CZCS imagery, Atlas of Australian Soils
COMMENTS:	
COMPILER:	GT, MC, Jan 1986

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NAME:	BRIDGETOWN
NUMBER:	287
STYLE:	Erosional
BASIC FORM:	Dissected plateaus
SOILS:	Ironstone gravelly yellow mottled soil with gravel, ironstone
SOILS ASSOCIATION:	Tc5, Jz2
DESCRIPTION:	Dissected plateaus, extensive blocky laterite, some swamps and old drainage lines
REGOLITH:	Deep weathering profile with mottled zones and ironstone
GEOLOGY:	Precambrian granite with minor metamorphics, sand (Albany-Fraser Province, Yilgarn Block)
ELEVATION:	Average 150 m
RELIEF:	30-120 m
MINOR LANDFORMS:	Swamps, drainage ways, some coastal plains
BOUNDARIES:	South coast, Darling Fault scarp, NE boundary based on rugged dunes
REFERENCES:	
TOPOGRAPHIC MAPS:	1:5 m Relief Map of Australia
GEOLOGICAL MAPS:	Australia 1:2.5 m and 1:5 m; 1:250 000 Series
OTHER SOURCES:	1:5 m Landform and Relief map of Australia; 1:1 m Vegetation Survey of WA; Sheet 5 Atlas of Australian Soils
COMMENTS:	
COMPILER:	GWD'A, Nov 1985

NAME:	KUMBARILLA
NUMBER:	288
STYLE:	Erosional
BASIC FORM:	Undulating to hilly plains
SOILS:	Hard setting loamy soils with mottled yellow clayey subsoils (Dy 3.43); Cracking Clays (Ug 5.16, 24, 25); Hard setting loams with darker clayey subsoils (Dd 1.33); leached sand soil (Uc 2.2); Sandy soils with mottled yellow clayey subsoil (Dy 5.41); loams (Um 1.4)
SOILS ASSOCIATION:	Va24; Kf14; HG3; Ca8; Wa13; Fz2 & 3; C20; CB1
DESCRIPTION:	Gently undulating plains with scattered high stony ridges, scarps and lateritized mesas. Some areas of low hills and ranges
REGOLITH:	Lateritized rock on mesas tops. Various coloured Upper Cainozoic sand deposits, some grits and sandy clay. Some sand lithified by carbonate or iron oxides; pebbles of quartzite and grey billy in coarser clastics. Sands up to 30 m thick. Various thick soils of 'Black Soil' affinity, some carbonate-rich
GEOLOGY:	Jurassic sandstone, siltstone, mudstone. Cretaceous shale, sandstone, siltstone, limestone. Tertiary fluvial sandstone and conglomerate. Cainozoic aeolian and residual quartz sand, ferruginous, aluminous and siliceous duricrust
ELEVATION:	280-2117 m
RELIEF:	30m-1500 m
MINOR LANDFORMS:	Isolated very high peaks in south of unit; northwest sloping plain; swamps and minor floodplains with associated landforms, numerous intermittant streams and sandy valley bottoms.
BOUNDARIES:	Primarily follow major soil map unit boundaries with close physiographic relationship, some influence from CZCS imagery patterns
REFERENCES:	Hill and Denmead (1960)
TOPOGRAPHIC MAPS:	Brisbane, Armidale 1:1 m
GEOLOGICAL MAPS:	Australia 1:2.5 m
OTHER SOURCES:	Landsat imagery, CZCS imagery, Atlas of Australian Soils
COMMENTS:	
COMPILER:	MC, GT Jan 1986

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NAME:	KOJONUP
NUMBER:	289
STYLE:	Erosional
BASIC FORM:	Plateaus
SOILS:	Yellow mottled soils with ironstone gravels
SOILS ASSOCIATION:	Ub90
DESCRIPTION:	Rolling to hilly country
REGOLITH:	Deep weathering profile with ferricrete
GEOLOGY:	Precambrian granite with metamorphics (Yilgarn Block)
ELEVATION:	Average 150 m
RELIEF:	30-100 m
MINOR LANDFORMS:	Tors, lateritic mesas
BOUNDARIES:	Southern boundary more rugged, Tertiary valley fill to the north
REFERENCES:	
TOPOGRAPHIC MAPS:	1:5 m Relief Map of Australia
GEOLOGICAL MAPS:	Australia 1:2.5 m, 1:5 m; 1:250 000 Series
OTHER SOURCES:	1:5 m Landform and Relief Map of Australia; 1:1 m Vegetation Survey of WA; Sheet 5 Atlas of Australian Soils
COMMENTS:	
COMPILER:	GWD'A, Nov 1985

NAME:	PALLAMALLAWA
NUMBER:	290
STYLE:	Depositional/erosional
BASIC FORM:	Undulating plains
SOILS:	Cracking Clays (Ug 5.15, 5.16; 5.13, 14, 24, 23, and Dd 1.33, Db 1.33); Leached sand soils (Uc 2.3); Hard setting loamy soils with brown clayey subsoil (Db 1.33)
SOILS ASSOCIATION:	Kd4; Kh2; CB1; Oc20; KC5; R02; CC16
DESCRIPTION:	Essentially an undulating plain with some isolated hills (Haystack Mountain, The Black Mountain) with a gentle west-northwest slope
REGOLITH:	Thick alluvial deposits of sand, silt and clays; 'black soils' surrounding Mt Kaputar - Nandewar Ranges. Some soils developed on alluvials, others directly derived from weathered volcanics of region. Some aluminous, ferruginous and siliceous duricrusts, along with a variety of aeolian and residual quartz sand deposits. Minor occurrences of alluvial, colluvial and lacustrine deposits
GEOLOGY:	Jurassic sandstone, siltstone, mudstone. Jurassic-Cretaceous sandstone, siltstone, mudstone. Tertiary basalt with minor acid volcanics. Cainozoic aeolian and residual quartz sand, alluvial colluvial and lacustrine sand, silt, clay and gravel. Aluminous, ferruginous, and siliceous duricrust
ELEVATION:	591
RELIEF:	20-320 m
MINOR LANDFORMS:	River valleys and flood plains with associated minor landforms, some eroded landforms associated with volcanics i.e. plugs/necks
BOUNDARIES:	Only minor influence from soil map units; physiographic nature of boundarz js more closely related to CZCS imagery patterns. Dumaresq River to the north; the Black Mountain, Cape and Bonnet Mountains together with the Mt Kaputar form the basis of eastern boundary; Western boundary is represented by a change in drainage density
REFERENCES:	Jensen (1907), Packham (1969)
TOPOGRAPHIC MAPS:	Armidale, Bourke 1:1 m
GEOLOGICAL MAPS:	Australia 1:2.5 m
OTHER SOURCES:	Landsat imagery, CZCS imagery, Atlas of Australian Soils
COMMENTS:	
COMPILER:	MC, Jan 1986

NAME:	MACINTYRE
NUMBER:	291
STYLE:	Erosional
BASIC FORM:	Hilly Terrain
SOILS:	Yellow Earths (Gn 2.21): Friable red earths (Gn 3.12); Hard setting soils, Loamy with mottled yellow clayey subsoil (Dy 3.42); loams (Um 5.4), Cracking clays (Ug 5.24, 25, 13, 14, 15, 16)
SOILS ASSOCIATION:	MS1; Ub56, 59; F7; Ub62; CC20; LM1; M08; JJ6; Kh3; KC5,4,3
DESCRIPTION:	Low hilly terrain with some flat to undulating portions
REGOLITH:	Ironstone gravels. Alluvial deposits: sand, silt, clays and gravels. Expanding clay soils in floodplain deposits
GEOLOGY:	Upper Devonian-Lower Carboniferous sandstone, siltstone, shale, chert, limestone, phyllite, schist. Carboniferous granite. Jurassic sandstone, siltstone, mudstone. Tertiary basalt with minor acid volcanics. Cainozoic aeolian and residual quartz sand, ferruginous, aluminous, and siliceous duricrust; alluvial, colluvial and lacustrine sand, silt, clay and gravel
ELEVATION:	200-629m
RELIEF:	50-200 m
MINOR LANDFORMS:	River floodplains and associated minor landforms, isolated high hills; hilly slopes of Dividing Range
BOUNDARIES:	Southern boundary coincides with MacIntyre River, the eastern boundary generally coincides with the lower western slopes of the Dividing Range, in the vicinity of the 500 m contour. To the north the unit is defined by the Condamine River floodplain. Some influence from CZCS imagery
REFERENCES:	Packham (1969)
TOPOGRAPHIC MAPS:	Armidale and Brisbane 1:1 m
GEOLOGICAL MAPS:	Australia 1:2.5 m
OTHER SOURCES:	Landsat imagery, CZCS imagery, Atlas of Australian Soils
COMMENTS:	
COMPILER:	GT, MC, Jan 1986

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NAME:	PERTH
NUMBER:	292
STYLE:	Depositional/erosional
BASIC FORM:	Coastal plains and dunes, undulating country
SOILS:	Bleached sands, sands with pans, leached sands
SOILS ASSOCIATION:	Cb39, A14, Mt8
DESCRIPTION:	Coastal plains with dunes, rising to undulating plains
REGOLITH:	Quaternary sands, swamps, some laterite
GEOLOGY:	Quaternary sand overlying mainly Cretaceous sediments (Perth Basin)
ELEVATION:	Average 0 - 150
RELIEF:	30 m
MINOR LANDFORMS:	Cape Naturaliste - Cape Leuwin granite
BOUNDARIES:	Coast and Darling Scarp
REFERENCES:	
TOPOGRAPHIC MAPS:	1:5 m Relief Map of Australia
GEOLOGICAL MAPS:	1:250 000 Series Maps; Australia 1:2.5 m and 1:5 m
OTHER SOURCES:	1:5 m Landform and Relief Map of Australia, 1:1 m Vegetation Map of WA, Sheet 5 Atlas of Australian Soils
COMMENTS:	
COMPILER:	GWD'A, Nov, 1985

NAME:	MORETON
NUMBER:	293
STYLE:	Erosional
BASIC FORM:	Subcoastal-coastal lowlands
SOILS:	Friable loamy soils with brown clayey subsoil (Db 3.12); Cracking clays (Ug 5.13, 14 & 15); Hard setting loamy soils with mottled yellow clayey subsoils (Dy 3.41) Friable earths dark (Gn 3.4); leached loamy soils (Um 2.1)
SOILS ASSOCIATION:	Rh10; Kb12; Tb65; Mn2,9; Fu3;
DESCRIPTION:	Subcoastal-coastal lowland on weak sedimentry rocks. Gently rolling terrain along coast, becoming more hilly inland
REGOLITH:	Commercial clay deposits of Triassic age; Tertiary palygorskite-sepiolite clays; Tertiary and Recent clays which are montmorillonite-illite rich and mixed layered mineral, highly expansive thixotropic, slow drying non refractory grades. About 300 m of alternating lacustrine sediments and basalt flows. Development of laterite. Alluvial deposits of floodplains including sand, silts, clays and gravels
GEOLOGY:	Upper Devonian-Lower Carboniferous sandstone, siltstone, chert, shale, limestone, phyllite, schist. Triassic sandstone, siltstone, mudstone, granite. Permian intermediate, acid and minor basic volcanicss with some pyroclastics. Tertiary basalt with minor acid volcanics. Cainozoic aeolian and residual quartz sand
ELEVATION:	200-782m
RELIEF:	100-600 m
MINOR LANDFORMS:	Prominent volcanic plugs. Dune Islands. Floodplain landforms
BOUNDARIES:	The northeastern boundary is indicated by the western slopes of the D'Aguilar Range. To the south the McPherson Range and to the west the edge of the Darling Downs (at 200 m contour) approximates the boundary. The boundaries are not wholly physiographic. Soil mapping units and CZCS imagery patterns exert some influence
REFERENCES:	Hill and Denmead (1960)
TOPOGRAPHIC MAPS:	Brisbane, Armidale 1:1 m
GEOLOGICAL MAPS:	Australia 1:2.5 m
OTHER SOURCES:	CZCS imagery, Atlas of Australian Soils
COMMENTS:	
COMPILER:	MC, GT Jan 1986

NAME:	BLACKBUTT
NUMBER:	294
STYLE:	Erosional
BASIC FORM:	Mountainous terrain
SOILS:	Hard setting loamy soils with yellow clayey subsoils (Dy 2.41). Hard setting loamy soil with red clayey subsoil (Dr 2.41, Dr 3.41); Leached loamy soil (Um 2.1); (Dr 2.42); leached sand soil (Uc 2.1); Duplex yellow soils (Dy 3.41)
SOILS ASSOCIATION:	Sj9,10,3,6,5; Pd10; Pu1; LK8; PL1; Fu3; Qd6; Cd3; Tb64
DESCRIPTION:	Steep hilly to mountainous terrain on metasediments and phyllites. Some small basalt residuals
REGOLITH:	Some commercial clays; some expanding/cracking highly plastic red and dark clay deposits associated with alluvial deposits and colluvium, and insitu weathering of basic volcanics. Alluvial deposits consisting of sand, silts, clays and some gravels.
GEOLOGY:	Upper Devonian-Lower Carboniferous sandstone, siltstone, shale, chert, limestone phyllite, schist. Permian sandstone, mudstone, tillite, limestone; acid, intermediate, and minor basic volcanics, pyroclastics. Permo-Triassic granite. Triass granites, sandstone, siltstone, mudstone. Jurassic sandstone, siltstone, mudstone. Tertiary basalt, minor acid volcanics
ELEVATION:	180-808m
RELIEF:	20-400 m
MINOR LANDFORMS:	Floodplain landforms; steep sided 'V' shaped valleys
BOUNDARIES:	Some slight influence of soil map units in determining boundaries. Main influence is physiographic. The the tract of land between the Darling Downs tableland surface and the 200 m contour at the foot of the degraded scarp in the Brisbane valley
REFERENCES:	Hill and Denmead (1960)
TOPOGRAPHIC MAPS:	Brisbane 1:1 m
GEOLOGICAL MAPS:	Australia 1:2.5 m
OTHER SOURCES:	CZCS imagery, Atlas of Australian Soils
COMMENTS:	
COMPILER:	MC, GT Jan 1986

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NAME:	LAKE FROME
NUMBER:	295
STYLE:	Depositional
BASIC FORM:	Playa salt lake
SOILS:	None - salt/calcareous sand (Uc 1.21)
SOILS ASSOCIATION:	A
DESCRIPTION:	Saline lake, usually dry. Gypsum dunes along eastern margin
REGOLITH:	Mostly halite, gypsum and calcareous sands, some clays
GEOLOGY:	Cretaceous sandstone, siltstone, shale, limestone. Cainozoic aeolian and residual sands, alluvial, colluvial and lacustrine sand, silt, clay and gravel. Quaternary gypsum, halite, clay and sand
ELEVATION:	40 m
RELIEF:	<6 m
MINOR LANDFORMS:	Shoreline landforms, calcareous dunes
BOUNDARIES:	Outer limit of waterline as mapped on 1:1 m topographic map.
REFERENCES:	Laut and others (1977) [8.4.1]
TOPOGRAPHIC MAPS:	Broken Hill 1:1 m
GEOLOGICAL MAPS:	Australia 1:2.5 m
OTHER SOURCES:	CZCS imagery, Atlas of Australian Soils
COMMENTS:	
COMPILER:	MC, GT Jan 1986

NAME:	ROSENEATH
NUMBER:	296
STYLE:	Depositional
BASIC FORM:	Plains
SOILS:	Cracking clay (Ug 5.24; Ug 5.6), Red earths (Gn 2.12)
SOILS ASSOCIATION:	MY5; CC20
DESCRIPTION:	Plains with occassional dune ridges
REGOLITH:	Aeolian and residual quartz sands as sheets and dunes. Cracking clays
GEOLOGY:	Cretaceous shale, siltstone, sandstone, limestone. Cainozoic aeolian and residual quartz sand
ELEVATION:	150 - 250m
RELIEF:	20 m
MINOR LANDFORMS:	Floodplain landforms of minor tributaries adjoining Culgao River System
BOUNDARIES:	Primarily influenced by CZCS imagery; lesser influence from soil mapping and physiographic units. The major SW-NE boundary is indicated by the edge of the Culgao River floodplain; The north-south boundary to the west of the unit is indicated by Wallam Creek.
REFERENCES:	Packham (1969), Hill and Denmead (1960)
TOPOGRAPHIC MAPS:	Bourke, Charleville 1:1 m
GEOLOGICAL MAPS:	Australia 1:2.5 m
OTHER SOURCES:	CZCS imagery, Atlas of Australian Soils
COMMENTS:	
COMPILER:	MC, GT Jan 1986

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NAME:	CHARLEVILLE
NUMBER:	297
STYLE:	Depositional
BASIC FORM:	Sand plain
SOILS:	Red earths (Gn2.12)
SOILS ASSOCIATION:	My units
DESCRIPTION:	Sandplain, with low rises of silcrete rubble
REGOLITH:	Sand, originally fluvial (?) with aeolian reworking. Probably overlies weathered Tertiary Glendower Formation with silcrete
GEOLOGY:	Cretaceous sediments of the Eromanga Basin, overlain by Cainozoic units
ELEVATION:	300 - 360
RELIEF:	Low
MINOR LANDFORMS:	
BOUNDARIES:	Distinguished from the Wyandra unit to the southwest by presence of low rises with silcrete rubble in the Charleville unit
REFERENCES:	D. Senior (1971)
TOPOGRAPHIC MAPS:	
GEOLOGICAL MAPS:	Charleville 1:250 000
OTHER SOURCES:	CZCS imagery
COMMENTS:	
COMPILER:	DLG, GT, Nov 1985

NAME:	WARREGO
NUMBER:	298
STYLE:	Depositional
BASIC FORM:	Floodplain
SOILS:	Grey self-mulching clays (Ug5.2), siliceous sands (Uc1.2)
SOILS ASSOCIATION:	CC19, B12
DESCRIPTION:	Prior distributory plain of the Warrego River
REGOLITH:	Alluvium, aeolian sand, probably overlying deeply weathered Cretaceous sediments
GEOLOGY:	Cretaceous sediments of the Eromanga Basin
ELEVATION:	140 - 290
RELIEF:	Low
MINOR LANDFORMS:	
BOUNDARIES:	Limit of Warrego River floodplain
REFERENCES:	Whitehouse (1941, 1944), Thomas (1971), Mabbutt (1969)
TOPOGRAPHIC MAPS:	Bourke 1:1m
GEOLOGICAL MAPS:	Queensland 1:2.5m
OTHER SOURCES:	CZCS imagery, Atlas of Australian Soils
COMMENTS:	
COMPILER:	DLG, Nov 1985

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NAME:	GERALDTON
NUMBER:	299
STYLE:	Erosional/depositional
BASIC FORM:	Coastal dunes, hills and ridges
SOILS:	Duplex soils
SOILS ASSOCIATION:	Wa9, B24
DESCRIPTION:	Coastal dune plains backed by low hills
REGOLITH:	Undulating plains, traversed by dunes, some ferricrete residuals
GEOLOGY:	Proterozoic metamorphic sediments and volcanics, Proterozoic granite, Silurian, Cretaceous and Tertiary sediments (Carnarvon and Perth Basins)
ELEVATION:	Average 0 - 100
RELIEF:	50
MINOR LANDFORMS:	
BOUNDARIES:	Coast and Darling scarp
REFERENCES:	
TOPOGRAPHIC MAPS:	1:5 m Relief Map of Australia
GEOLOGICAL MAPS:	1:250 000 series; Australia 1:2.5 and 1:5 m
OTHER SOURCES:	1:5 m Landform and Relief Map of Australia; 1:1 m vegetation survey of WA; Atlas of Australian Soils, sheets 5 & 6
COMMENTS:	
COMPILER:	GWD'A, Nov 1985

NAME:	ORIENTOS
NUMBER:	300
STYLE:	Erosional/Depositional
BASIC FORM:	Plains
SOILS:	Cracking clays (Ug 5.24,5.25,5.3); Red Earths (Gn 2.12, 2.13); Loamy soils with weak profile development (Um 5.51); Siliceous sands (Uc 1.2)
SOILS ASSOCIATION:	B60; Mx34; Fa47; My149; MM66; CC99
DESCRIPTION:	Plains with longitudinal sand dunes and clay pans; some seasonal drainage-ways. Some areas of undulating to low hilly terrain with gravel strewn surfaces
REGOLITH:	Numerous sand dunes and sheets, clay and evaporite deposits associated with numerous lakes; desert armored surfaces; stony rises or polygons probably associated with expanding clays. Some ferruginous, aluminous and siliceous duricrust
GEOLOGY:	Cretaceous sandstone, siltstone, shale, limestone. Cainozoic aeolian and residual quartz sand; minor alluvial, colluvial and lacustrine sand, silt and clay. Tertiary fluvial sandstone, conglomerate. Cainozoic ferruginous, aluminous and siliceous duricrusts
ELEVATION:	100-305 m
RELIEF:	5-100m.
MINOR LANDFORMS:	Clay pans, kopi dunes, numerous small lakes; longitudinal and 'Y' shaped sand dunes
BOUNDARIES:	In part, the eastern boundary is indicated by the Grey Range; some influence from soil map unit boundaries and CZCS imagery patterns.
REFERENCES:	Parkin (1969), Packham (1969)
TOPOGRAPHIC MAPS:	Broken Hill 1:1 m
GEOLOGICAL MAPS:	Australia 1:2.5 m
OTHER SOURCES:	CZCS imagery, Atlas of Australian Soils
COMMENTS:	
COMPILER:	MC, GT Jan 1986

NAME:	CENTRAL STRZELECKI DESERT
NUMBER:	301
STYLE:	Depositional
BASIC FORM:	Dunefields
SOILS:	Siliceous sand (Uc 1.2), Cracking clays (Ug 5.24,5.25)
SOILS ASSOCIATION:	B51; CC109
DESCRIPTION:	Dunefields with variable interdune corridors and plains; traversed by flood-plains with distributary channels; subject to seasonal inundation. In south plains with some low ridges and tracts of low dunes; adjacent to saline, normally dry lakes.
REGOLITH:	Dominated by linear and 'Y' shaped deposits of dune sand as well as broad expanses of sheet sands. Some channelways filled with sands and gravels but dominated by cracking clays
GEOLOGY:	Cretaceous sandstone, siltstone, shale, limestone. Cainozoic aeolian and residual quartz sand, minor alluvial and colluvial sand and lacustrine sand, silt, clay and gravel. Quaternary gypsum, clay, halite and sand
ELEVATION:	50 m
RELIEF:	6-30 m
MINOR LANDFORMS:	Linear dune sequences trending approx N to NNW
BOUNDARIES:	Determined significantly by soil map unit boundaries which relate clearly to physiographic boundaries. Strzeleck Creek follows the nearby eastern boundary; Cooper Creek similarly follows western boundary. CZCS imagery patterns support boundary positions
REFERENCES:	Laut and others (1977), Parkin (1969)
TOPOGRAPHIC MAPS:	Cooper Creek, Broken Hill 1:1 m
GEOLOGICAL MAPS:	Australia 1:2.5 m
OTHER SOURCES:	CZCS imagery, Atlas of Australian Soils
COMMENTS:	
COMPILER:	MC, GT Jan 1986

NAME:	MOUNT BARRY
NUMBER:	302
STYLE:	Depositional
BASIC FORM:	Plain
SOILS:	Crusty red duplex soils (Dr1.33), grey self-mulching cracking clays (Ug5.24)
SOILS ASSOCIATION:	Nb26, CC112
DESCRIPTION:	A gently undulating gypcrete plain, and wide floodplains with anastamosing channels
REGOLITH:	Gypcrete plain. Floodplain deposits: sand, silt, clay and gravels. Ferruginous, aluminous and siliceous duricrusts associated with mesa, cuesta and vale topography
GEOLOGY:	Cretaceous sandstone, siltstone, shale, limestone. Cainozoic alluvium, colluvium, lacustrine sand, silt, clay & gravel. Ferruginous, aluminous and siliceous duricrusts. Quaternary gypsum, halite, clay and sand
ELEVATION:	150m
RELIEF:	<6 m
MINOR LANDFORMS:	Minor floodplain features; distributary channels and sand deposits
BOUNDARIES:	Defined by physiographic units of Arckaringa and Peak Creeks main channel and immediate next lesser order tributaries; In part defined by soil map units
REFERENCES:	Laut and others (1977) [8.3.21]
TOPOGRAPHIC MAPS:	Tarcoola, Oodnadatta 1:1 m
GEOLOGICAL MAPS:	Australia 1:2.5 m
OTHER SOURCES:	
COMMENTS:	
COMPILER:	MC, GT Jan 1986

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NAME:	GIDDI GIDDINNA
NUMBER:	303
STYLE:	Depositional
BASIC FORM:	Plain
SOILS:	Crusty red duplex soils (Dr 1.33), loamy soils with weak pedologiz development (Um 5.11), brown calcareous earths (Gc 1.22)
SOILS ASSOCIATION:	BB3; DD27; Nb26
DESCRIPTION:	A gently sloping plain with large clay pans
REGOLITH:	Sand mantle; some dune sands; alluvial sand, silts and clay, some pana and evaporite deposits (halite, gypsum, kopi ridges near lake shore)
GEOLOGY:	Cretaceous sandstone, siltstone, shale, limestone. Cainozoic aeolian and residual quartz sand. Quaternary gypsum, halite, clay and sand
ELEVATION:	120 m
RELIEF:	< 6 m
MINOR LANDFORMS:	Lake; lake shoreline features, islands at the northwestern end of the lake. Some sand ridges
BOUNDARIES:	Part of the northern boundary follows Giddi Giddinna Creek; the southern boundary in part follows Dolgelina Creek and the remainder the southern edge of Lake Cadibarrawirracanna. Some parts of the unit are associated closely with soil map units
REFERENCES:	Laut and others (1977), Parkin (1969)
TOPOGRAPHIC MAPS:	Tarcoola 1:1 m
GEOLOGICAL MAPS:	Australia 1:2.5 m
OTHER SOURCES:	Atlas of Australian Soils
COMMENTS:	
COMPILER:	MC, GT Jan 1986

NAME:	SOUTH STREZLECKI DESERT
NUMBER:	304
STYLE:	Depositional
BASIC FORM:	Dune fields
SOILS:	Siliceous sands (Uc 1.2); Red earths (Gn 2.13); Brown calcareous earths (Gc 1.22,1.12)
SOILS ASSOCIATION:	B60; Mx34; DD2; DD2,23,25; CC18
DESCRIPTION:	Dunefields with variable interdune corridors and plains; some clay pans; some seasonal drainage-ways
REGOLITH:	Sand mantles, dune sands. Evaporite deposits: halite, gypsum. Parna and kopi dunes. Alluvial sand, silt and clay. Gilgai mounds associated with expanding clays
GEOLOGY:	Cretaceous sandstone, siltstone, shale, limestone. Cainozoic aeolian and residual quartz sand. Quaternary gypsum, halite, clay and sand
ELEVATION:	Less than 200 m
RELIEF:	Approx 20 m
MINOR LANDFORMS:	Longitudinal dunes trending NNW, NNE; numerous playas; swampy lowlands
BOUNDARIES:	Western boundary in part outlined by Strezlecki Creek, east side of Lakes Callabonna and Frome, and Rasmore River flats; the eastern boundary is primarily an approximation to a soil map unit boundary. Some influence from CZCS imagery patterns.
REFERENCES:	Parkin (1969)
TOPOGRAPHIC MAPS:	Broken Hill 1:1 m
GEOLOGICAL MAPS:	Australia 1:2.5 m
OTHER SOURCES:	CZCS imagery, Atlas of Australian Soils
COMMENTS:	
COMPILER:	MC, GT Jan 1986

NAME:	FROME PLAINS
NUMBER:	305
STYLE:	Depositional
BASIC FORM:	Salt lakes, alluvial plains, piedmont plains, stony downs
SOILS:	Crusty loamy soils with red clayey subsoils (Dr 1.33); Brown calcareous earths (Gc 1.22, 12); loamy soils with weak pedologic development (Um 5.11)
SOILS ASSOCIATION:	Nb35,36; DD2,26; BB32
DESCRIPTION:	Stony downs, piedmont and alluvial plains. In east plains are broad with clay pans, saline soils, swamps and intermittent lakes; also some isolated tracts of dunes.
REGOLITH:	Stony downs/piedmont alluvial plains. In east plains are broad with clay pans, saline soils, swamps and intermittent lakes; also some isolated tracks of dunes. Piedmont plains often have stony pavement. In west, stony downs and dissected piedmont plains. Exposed caliche and crusty loamy soils on broad plains. Stony downs/dissected piedmont plains have cover of stones and gravel
GEOLOGY:	Cambrian sandstone, siltstone, shale, conglomerate. Cretaceous sandstone, siltstone, shale, limestone. Cainozoic aeolian and residual quartz sands, alluvial and lacustrine, sand, silt, clay and gravel, ferruginous, aluminous and siliceous duricrusts
ELEVATION:	100-200
RELIEF:	70 m
MINOR LANDFORMS:	NNW trending dunes; wide river floodplains; isolated hills, scarps. Swamps, lowlands
BOUNDARIES:	North Flinders Ranges at about 200 m elevation provides the boundary guide for the minor inner boundary of the crescentic shape unit. The outer boundary is indicated by a line connecting lake Blanche, Lake Gregory, Lake Callabona and Lake Frome. In part the boundaries are physiographic and related to both soil map units and CZCS imagery patterns
REFERENCES:	Parkin (1969)
TOPOGRAPHIC MAPS:	Broken Hill 1:1 m
GEOLOGICAL MAPS:	Australia 1:2.5 m
OTHER SOURCES:	CZCS imagery, Atlas of Australian Soils
COMMENTS:	
COMPILER:	MC, GT Jan 1986

NAME:	FLINDERS RANGES
NUMBER:	306
STYLE:	Erosional
BASIC FORM:	Rocky ranges and hills
SOILS:	Loamy soils with weak pedologic development (Um 5.11); Crusty loamy soils with red clayey subsoil (Dr 1.33)
SOILS ASSOCIATION:	BB32; BB3; Nb37
DESCRIPTION:	Ranges and hills with extensive rock outcrop and shallow soils; stony pediments and small basin plains; some remnants of stony downs; narrow valleys, some with gorges. Ranges and hills in form of hogback ridges in quartzite
REGOLITH:	Bare rock; some alluvium and colluvium (sand, silt and clay); less common dune sand and some sand mantles. Calcreted gravels derived from silcreted deposits and probably equate with Ripon Calcrete. Younger Telford gravels (Middle Pleistocene)
GEOLOGY:	Proterozoic (Adelaidian) sediments of Adelaide fold belt. Cambrian sandstone, siltstone, chert, limestone. Tertiary marine sandstone, siltstone, mudstone. Tertiary fluvial sandstone, conglomerate. Cainozoic aeolian and residual quartz sand, alluvial, colluvial and lacustrine sand, silt, clay and gravel
ELEVATION:	180-1129 m
RELIEF:	10-650 m
MINOR LANDFORMS:	Alluvial fans, minor fluvial terraces, distributary channels and associated sediment packages
BOUNDARIES:	Mainly a physiographic unit determined by 200 m + contour, delineating the north Flinders Ranges
REFERENCES:	Laut and others (1977), Parkin (1969)
TOPOGRAPHIC MAPS:	Broken Hill 1:1 m
GEOLOGICAL MAPS:	Australia 1:2.5 m
OTHER SOURCES:	CZCS imagery, Atlas of Australian Soils
COMMENTS:	
COMPILER:	GT, MC, Jan 1986

NAME:	ETADUNNA
NUMBER:	307
STYLE:	Erosional
BASIC FORM:	Stony downs
SOILS:	Crusty loams soils with red clayey subsoil (Dr 1.33); loamy soils with weak pedologic development (Um 5.11)
SOILS ASSOCIATION:	Nb35; BG1
DESCRIPTION:	Undulating terrain with some scarps, mesas, and buttes. Tableland remnants
REGOLITH:	A mantle of stones and gravels covers the soil surface. Silcrete on tableland remnants; alluvial sand and some gravel
GEOLOGY:	Cretaceous sandstone, siltstone, shale, limestone. Cainozoic aeolian and residual quartz sand; alluvium and colluvium, lacustrine sand, silt, clay and gravel
ELEVATION:	70 m
RELIEF:	6-30 m
MINOR LANDFORMS:	Wide fluvial channels, and associated floodplains and minor landforms; lakes; some dunes (linear) and low sand ridges; sand sheets
BOUNDARIES:	Strong relationship with soil map unit boundaries and physiographic boundaries
REFERENCES:	Laut and others (1977)
TOPOGRAPHIC MAPS:	Broken Hill 1:1 m
GEOLOGICAL MAPS:	Australia 1:2.5 m
OTHER SOURCES:	CZCS imagery, Atlas of Australian Soils
COMMENTS:	
COMPILER:	MC, GT Jan 1986

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NAME:	MAREE
NUMBER:	308
STYLE:	Depositional
BASIC FORM:	Plain
SOILS:	Crusty red duplex soils (Dr 1.33)
SOILS ASSOCIATION:	Nb35,36; BG1
DESCRIPTION:	A gently undulating gypcrete plain with entrenched drainage and low escarpments
REGOLITH:	Grypcreted tableland, dune sand; alluvial sand silt clay and gravel; kopi dunes and low ridges; halite; claypans
GEOLOGY:	Cretaceous sandstone, siltstone, shale, limestone. Cainozoic aeolian and residual quartz sand; alluvial, colluvial and lacustrine sand, silt, clay and gravel. Quaternary gypsum, halite, clay and sand. Some minor Precambrian basement outcrops.
ELEVATION:	80 m
RELIEF:	6-30 m
MINOR LANDFORMS:	Wide fluvial channels and associated minor landforms, salt lakes; isolated rises (interfluves on an otherwise flat plain);
BOUNDARIES:	Mostly physiographic unit which is defined primarily by the absence of dunes
REFERENCES:	Laut and others (1977) [8.3.5], Parkin (1969)
TOPOGRAPHIC MAPS:	Broken Hill 1:1 m
GEOLOGICAL MAPS:	Australia 1:2.5 m
OTHER SOURCES:	Atlas of Australian Soils
COMMENTS:	
COMPILER:	MC, GT Jan 1986

NAME:	INAKOO HILL
NUMBER:	309
STYLE:	Erosional
BASIC FORM:	Tableland
SOILS:	Crusty, red duplex soils (Dr 1.33), Brown calcareous earths (Gc 1.22), Loamy soil with weak pedologic development (Um 5.12)
SOILS ASSOCIATION:	DD26; BG1; NB35,36
DESCRIPTION:	A silcrete tableland with dunes and occasional lakes and pans
REGOLITH:	Silcrete, dune sands, clay pans; ferruginous and aluminous duricrust
GEOLOGY:	Cretaceous sandstone, siltstone, shale, limestone. Cainozoic aeolian and residual quartz sand, ferruginous, aluminous and siliceous duricrust
ELEVATION:	60 m
RELIEF:	6-30 m
MINOR LANDFORMS:	Dissected tableland remnants; low hills on an otherwise flat plain; some salt lakes and claypans
BOUNDARIES:	Areal extent of dunefield south of Tinnacudinna and Toopawarrina Hills, and to the north of Lake Frome. The boundaries is essentially physiographic with some influence from soil map units
REFERENCES:	Laut and others (1977) [8.3.11]
TOPOGRAPHIC MAPS:	Parkin (1969)
GEOLOGICAL MAPS:	Broken Hill 1:1 m
OTHER SOURCES:	Australia 1:2.5 m
COMMENTS:	
COMPILER:	MC, GT Jan 1986

NAME:	TARLTON KNOB
NUMBER:	310
STYLE:	Erosional
BASIC FORM:	Rocky ranges and hills
SOILS:	Loamy soils with weak pedologic developoment (Um 5.12)
SOILS ASSOCIATION:	BB32; NB35
DESCRIPTION:	Ranges of hills with extensive rock outcrop and shallow soil; stony pediments and small basin plains; some remnants of stony downs; narrow valleys some with gorges. Low quartzite and dolomite strike ridges
REGOLITH:	Some weathered rock, bare rock and sand mantles; dune sands and alluvial sand, silt and clay; stone covered plains; some gilgai effects. Evaporites (gypsum and halite)
GEOLOGY:	Middle Proterozoic sandstone, siltstone, shale, dolomite, limestone, quartzite with some acid and basic volcanics; minor low grade metamorphics - part of Adelaide fold beld. Cainozoic aeolian and residual quartz sand. Tertiary sandstone, conglomerate (fluvial)
ELEVATION:	100-461 m
RELIEF:	20-300 m
MINOR LANDFORMS:	Breakaway scarps, cuestas and vales, longitudinal and 'Y' shape dunes, wide alluvial flats and channelways; numerous intermittant watercourses
BOUNDARIES:	Limited to southwest by sand dune landscapes, to north by broad alluvial plains and watercourses. The unit encircles areas of hills and long hogback and cuesta ridges. Boundaries are physiographic with slight influence from soil map units, assisted by CZCS imagery patterns
REFERENCES:	Laut and others (1977), Parkin (1969)
TOPOGRAPHIC MAPS:	Tarcoola 1:1 m
GEOLOGICAL MAPS:	Australia 1:2.5 m
OTHER SOURCES:	CZCS imagery, Atlas of Australian Soils
COMMENTS:	
COMPILER:	MC, GT Jan 1986

NAME: TORRENS PLAINS
NUMBER: 311
STYLE: Depositional
BASIC FORM: Dune covered plain
SOILS: Brown calcareous earths (Gc 1.12); Crusty loamy soils with red clayey subsoils (Dr 1.33); Loamy soils with weak pedologic development (Um 5.11)
SOILS ASSOCIATION: DD1; Nb35; BB32
DESCRIPTION: Plain adjacent to Lake Torrens, covered by dune formations with relatively small plains between. Numerous partly connected lakes and pans. Sandy alluvial plain beneath dunes
REGOLITH: Dominated by dune sand and sand mantles; alluvial sand, silt and clay; evaporites (gypsum, and halite); some kopi dunes and low rises; gilgai and stony plains; clay and silt deposits in dune corridors
GEOLOGY: Middle Proterozoic sandstone, siltstone, shale, limestone. Cainozoic aeolian and residual quartz sand. Cambrian sandstone, shale, limestone, siltstone, conglomerate. Minor alluvial, colluvial and lacustrine sand, silt, clay and gravel
ELEVATION: 20-200 m
RELIEF: <6 m to 150 m
MINOR LANDFORMS: Occasional clay pans; some swamplands; rare low hogback and cuesta ridges
BOUNDARIES: Western boundary is indicated by eastern shore of Lake Torrens. Eastern boundary is outlined by the western slopes of the North Flinders Range. The unit is essentially physiogrpahic
REFERENCES: Laut and others (1977)
TOPOGRAPHIC MAPS: Broken Hill, Tarcoola 1:1 m
GEOLOGICAL MAPS: Australia 1:2.5 m
OTHER SOURCES: CZCS imagery, Atlas of Australian Soils
COMMENTS:
COMPILER: MC, GT Jan 1986

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NAME: LAKE TORRENS
NUMBER: 312
STYLE: Depositional
BASIC FORM: Salt Lake
SOILS: Grey calcareous loams (Um 1.21), Brown calcareous earths (Gc 1.12), Crusty loamy soils and red clayey subsoils (Dr 1.33)
SOILS ASSOCIATION: Sv; DD1; Nb41
DESCRIPTION: Saline, normally dry lake. Gypsum dunes along the eastern margin
REGOLITH: Evaporites: gypsum, halite, clay, sand and silt
GEOLOGY: Proterozoic basement of sandstone, siltstone, shale and limestone - Adelaide fold belt. Tertiary fluvial sandstone and conglomerate. Quaternary gypsum, halite and clay
ELEVATION: 20 m
RELIEF: <6 m
MINOR LANDFORMS: Dunes, clay mudflats
BOUNDARIES: Lake shoreline as shown on 1:1 m topographic map
REFERENCES: Laut and others (1977)
TOPOGRAPHIC MAPS: Tarcoola 1:1 m
GEOLOGICAL MAPS: Australia 1:2.5 m
OTHER SOURCES: CZCS imagery, Atlas of Australian Soils
COMMENTS:
COMPILER: MC, GT Jan 1986

NAME:	ANDAMOOKA TABLELAND
NUMBER:	313
STYLE:	Erosional
BASIC FORM:	Dissected sandstone plateau
SOILS:	Crusty red duplex soils (Dr1.13), red calcareous loams (Um5.11)
SOILS ASSOCIATION:	Nb; BB
DESCRIPTION:	Dissected sandstone plateau with bold eastern escarpment. Surface undulating to hilly and often gibber-covered, particularly in east
REGOLITH:	Sands, clays, silts; pallid zones and ferruginised breakaway scarps. Silcrete and silcrete skins; stony plains and plateau remnants. Colluvial fans, alluvial sands, silts, clays and gravels. Stony tablelands, gibber plains and stone circles (gilgai effects)
GEOLOGY:	Proterozoic (Adelaidean) sandstone, siltstoneone, shale, limestone. Minor Cretaceous sandstone, siltstone, shale, limestone. Minor Cainozoic aeolian and residual quartz sands. And minor Quaternary gypsum, halite and, clay and sand
ELEVATION:	239 m
RELIEF:	6 to 90 m
MINOR LANDFORMS:	West shoreline features of Lake Torrens; occasional dunes and low rises; breakaway scarps; cuestas and vales; mesas and tablelands; lake edge swamplands and pans
BOUNDARIES:	West side of Lake Torrens; elsewhere, the slopes of tableland edges and start of dune landscapes. Primarily a physiographic unit with some influence of soil map units and CZCS imagery patterns
REFERENCES:	Laut and others (1977) [7.3.20, 7.3.21]
TOPOGRAPHIC MAPS:	Tareoola 1:1 m
GEOLOGICAL MAPS:	Australia 1:2.5 m
OTHER SOURCES:	CZCS imagery, Atlas of Australian Soils
COMMENTS:	
COMPILER:	MC, GT Jan 1986

NAME:	GAIRDNER LAKES
NUMBER:	314
STYLE:	Depositional
BASIC FORM:	Salt lakes
SOILS:	Amorphous loamy soils (Um 5.41); Brown calcareous earths (Gc 1.1); Soils with weak horizon development (Uc 5.11,5.12); Crusty loamy soils with red clayey subsoils (Dr 1.33); Silicous sands (Uc 1.2)
SOILS ASSOCIATION:	F3; F10; F4; DD1; AA2; Nb42; B62
DESCRIPTION:	Saline, normally dry lakes of variable size
REGOLITH:	Evaporites (gypsum, halite); kopi dunes; clay and silt (mud) flats; some sand
GEOLOGY:	Proterozoic - Adelaidean and Carpentarian basement of sandstone, siltstone, shale and Gambier Block volcanics and pyroclastics. Quaternary gypsum, halite, and clay and sand
ELEVATION:	Less than 200 m
RELIEF:	10-20 m
MINOR LANDFORMS:	Sand dunes; kopi dunes and low ridges; shoreline features due to lake full stages; silt jetties and creek inflow jetties
BOUNDARIES:	Lake shorelines as indicated on 1:1 m maps but generalised
REFERENCES:	Parkin (1969)
TOPOGRAPHIC MAPS:	Tarcoola, Port Augusta 1:1 m
GEOLOGICAL MAPS:	Australia 1:2.5 m
OTHER SOURCES:	CZCS imagery, Atlas of Australian Soils
COMMENTS:	
COMPILER:	MC, GT Jan 1986

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NAME:	EYRE DUNEFIELD
NUMBER:	315
STYLE:	Depositional
BASIC FORM:	Dunefield with longitudinal dunes
SOILS:	Sand soils with weak pedologic development (Uc 5.21). Red calcareous earths (Uc 5.11, 12, 13). Red siliceous sands (Uc 1.2)
SOILS ASSOCIATION:	B62; AB80; AA2
DESCRIPTION:	Stable NW-SE longitudinal dunes, locally broken by granite hills and ridges of metamorphic rocks. Dunes closely spaced
REGOLITH:	Vast dune sand and interdune corridors of clay, silt and very fine sand; evaporite deposits in numerous salt lakes (gypsum, halite); kopi ridges and dunes; some silcrete and calcrete (rare)
GEOLOGY:	Lower Proterozoic and Carpentarian metamorphics (Gawler and Pointer Blocks), granite of Gambier and Pointer Blocks. Cainozoic aeolian and residual quartz sand. Minor Quaternary gypsum, halite, clay and sand
ELEVATION:	200 m or less
RELIEF:	6-30 m
MINOR LANDFORMS:	Dunes and interdune corridors; numerous small mostly dry salt lakes. Some palaeodrainage channels. Some seasonal swamps
BOUNDARIES:	Edge of dunefields in most areas but not not beyond Trans Australia Railway before 416 mile Siding.
REFERENCES:	Laut and others (1977), Parkin (1969)
TOPOGRAPHIC MAPS:	Tarcoola, Port Augusta 1:1 m
GEOLOGICAL MAPS:	Australia 1:2.5 m
OTHER SOURCES:	CZCS imagery, Atlas of Australian Soils
COMMENTS:	
COMPILER:	MC, GT Jan 1986

NAME:	GULF PLAINS
NUMBER:	316
STYLE:	Depositional
BASIC FORM:	Alluvial and littoral plains
SOILS:	Cracking clays (Ug 5.2); Brown calcareous earths (Gc 1.12, 22); Highly calcareous loamy earths (Gc 1.12); Plastic saline clay soils (Uf 6.61); Hard setting loamy soils with red clayey subsoils (Dr 2.23)
SOILS ASSOCIATION:	DD4; DD2; J2; La1; Lb2; 03,1,8,9; CC9; Lb3
DESCRIPTION:	Alluvial and littoral plains with NW-SE longitudinal dunes, mainly stabilized, in isolated areas. Near the Mt Lofty Ranges the plains have a detritic westerly gradient and merge eastwards with the alluvial fans of the Ranges
REGOLITH:	Calcrete development; some variably oriented dunes in north west of unit beyond Port Augusta. Calcareous loams. Clay rich soils, both plastic and cracking varieties
GEOLOGY:	Proterozoic (Adelaidean) sandstone, siltstone, shale, limestone, some tillite, dolomite, low grade regional metamorphics. Cambrian sediments of Kanmantoo fold belt. Tertiary marine sandstone, siltstone, mudstone; fluvial sandstone, conglomerate. Cainozoic aeolian and residual quartz sand, alluvial, colluvial and lacustrine silt, clay and gravel
ELEVATION:	0-413 m
RELIEF:	5-200 m
MINOR LANDFORMS:	Hogback ranges, lowland coastal swampy plains, shoreline features of Saint Vincent Gulf, alluvial floodplains
BOUNDARIES:	Coastal plain below 200 m level of Lofty Range to coastline; Port Clinton to Port Broughton the boundary line is mostly arbitrary but there is some influence from soil map units
REFERENCES:	Parkin (1969)
TOPOGRAPHIC MAPS:	Port Augusta, Adelaide 1:1 m
GEOLOGICAL MAPS:	Australia 1:2.5 m
OTHER SOURCES:	CZCS imagery, Atlas of Australian Soils
COMMENTS:	
COMPILER:	MC, GT Jan 1986

NAME:	GILES
NUMBER:	317
STYLE:	Depositional
BASIC FORM:	Plain
SOILS:	Neutral (Gn 2.12). Red earths and soils with weak pedologic development (Uc 5.21)
SOILS ASSOCIATION:	MY152; MY117; MY116; AB80
DESCRIPTION:	A gently undulating plain with E-W longitudinal dunes and gibber covered rises. Shallow sandy depressions associated with a relict drainage system
REGOLITH:	Ironstone gravel on plains and rises. Calcrete and gibbers on rises. East-West dunes
GEOLOGY:	Cretaceous sandstone, siltstone, shale, limestone. Cainozoic aeolian and residual quartz sand; ferruginous, aluminous and siliceous duricrust. Alluvial, colluvial and lacustrine sand, silt, gravel and clays
ELEVATION:	280 m
RELIEF:	<6 m - 70 m
MINOR LANDFORMS:	Some 'Y' shaped dunes
BOUNDARIES:	Mostly influenced by CZCS imagery patterns and soil map unit boundaries
REFERENCES:	Laut and others (1977). [8.2.6, 8.2.7]
TOPOGRAPHIC MAPS:	Tarcoola 1:1 m
GEOLOGICAL MAPS:	Australia 1:2.5 m
OTHER SOURCES:	CZCS imagery, Atlas of Australian Soils
COMMENTS:	
COMPILER:	MC, GT Jan 1986

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NAME:	OODNADATTA TABLELAND
NUMBER:	318
STYLE:	Erosional
BASIC FORM:	Low tablelands
SOILS:	Loamy soils with weak pedologic development (Um 5.11); crusty loamy soils with red clayey subsoils (Dr 1.33); cracking clays (Ug 5.42, 25); brown calcareous earths (Gc 1.12, 22)
SOILS ASSOCIATION:	BB33; Nb26; Nb40; CC122; DD27
DESCRIPTION:	Silcrete capped low tablelands and plains
REGOLITH:	Nodular, prismatic silcretes; ferricretes, calcretes, opal in commercial quality; gilgai; desert armour; hardpans;deep weathering profiles; ferruginized and calcreted scarp exposures with pallid zones and duricrusts; porcellanitic cemented sediments. Evaporites: gypsum and halite. Dune and alluvial sands, silts, clays. Parna; kopi dunes
GEOLOGY:	Minor Proterozoic metamorphics. Cretaceous sandstone, siltstone, shale, limestone. Cainozoic aeolian and residual quartz sand. Ferruginous, aluminous, siliceous, duricrusts, terrestrial limestone, sand and clay. Quaternary gypsum, halite and clay
ELEVATION:	30-250 m
RELIEF:	5-50 m
MINOR LANDFORMS:	Breakaway scarps; tablelands; mesas, buttes; cuesta ridges; claypans, wide alluvial channels (mostly clay). Sand dunes
BOUNDARIES:	Partially related to soil map units and physiographic boundaries. Some use of CZCS imagery patterns.
REFERENCES:	Ambrose and Flint (1981a), Benbow (1983), Wopfner, (1978)
TOPOGRAPHIC MAPS:	Tarcoola 1:1 m
GEOLOGICAL MAPS:	Australia 1:2.5 m
OTHER SOURCES:	CZCS imagery, Atlas of Australian Soils
COMMENTS:	
COMPILER:	MC, GT Jan 1986

NAME:	PEAKE CREEK
NUMBER:	319
STYLE:	Depositional
BASIC FORM:	Alluvial Plains
SOILS:	Crusty, loamy soils with red clayey subsoils (Dr 1.33); Cracking clays (Ug 5.24, 5.25); Brown calcareous earths (Gc 1.12, 22)
SOILS ASSOCIATION:	DD27; Nb26,40; CC121
DESCRIPTION:	Plains with tracts of sand dunes; clay pans and seasonal lakes, broad floodplains. Grypcrete remnants.
REGOLITH:	Dune sands and sand mantles. Evaporites (gypsum, halite). Kopi dunes and ridges. Parna and clay pans. Clayey loams, some calcareous in interdune corridors. Alluvial sand, silt and clays in swampy lowland regions draining towards Lake Eyre (north)
GEOLOGY:	Cretaceous sandstone, siltstone, shale, limestone. Cainozoic aeolian and residual quartz sand. Ferruginous, aluminous and siliceous, duricrust. Terrestrial limestone sand and clay. Quaternary gypsum, halite and clay
ELEVATION:	60 m
RELIEF:	<6 m
MINOR LANDFORMS:	Wide alluvial channelways (mostly dry); dunes; kopi dunes; salt lakes; clay pans
BOUNDARIES:	Encloses area of dune landscape and most of the southern end of Lake Eyre (north). Primarily physiographic and closely related to soil map unit boundaries
REFERENCES:	Laut and others (1977)
TOPOGRAPHIC MAPS:	Tarcoola 1:1 m
GEOLOGICAL MAPS:	Australia 1:2.5 m
OTHER SOURCES:	CZCS imagery, Atlas of Australian Soils
COMMENTS:	
COMPILER:	MC, GT 1986

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NAME:	DENISON RANGES
NUMBER:	320
STYLE:	Erosional
BASIC FORM:	Bevelled low ridges
SOILS:	Loamy soils with weak pedologic development (Um 5.11); crusty loamy soils with red clayey subsoils (Dr 1.33); cracking clays (Ug 5.24, 25), Brown calcareous earths (Gc 1.12, 22)
SOILS ASSOCIATION:	Nb38; Nb26, CC112, DD27
DESCRIPTION:	Bevelled low ridges of folded metamorphic rocks
REGOLITH:	Sand mantles over bare rock; alluvial sands, silts and clays; evaporites (gypsum halite, some calcrete development); siliceous and ferruginous duricrusts
GEOLOGY:	Proterozoic (Adelaidean) sandstone, siltstone, dolomite. High and low grade regional metamorphics. Permian sediments (minor). Jurassic sandstone, siltstone, mudstone. Cretaceous sandstone, siltstone, shale, limestone.
ELEVATION:	300 m
RELIEF:	90-180 m
MINOR LANDFORMS:	Bevelled cuestas; mesas; buttes; scarp faces
BOUNDARIES:	Enclosing the 200 m+ contour of the Ranges
REFERENCES:	Laut & others (1977), Parkin (1969)
TOPOGRAPHIC MAPS:	Tarcoola 1:1 m
GEOLOGICAL MAPS:	Australia 1:2.5 m
OTHER SOURCES:	CZCS imagery, Atlas of Australian Soils
COMMENTS:	
COMPILER:	MC, GT Jan 1986

NAME:	LAKE DISAPPOINTMENT
NUMBER:	321
STYLE:	Depositional
BASIC FORM:	Plains with longitudinal sand dunes
SOILS:	Red earthy sands associated with laterite residuals, red sands
SOILS ASSOCIATION:	AB44,47, BA17, SV9
DESCRIPTION:	Sand dunes, salt lakes, alluvial plains, scattered duricrusted residuals
REGOLITH:	Dune sands, salt lakes, salt and clay pans
GEOLOGY:	Proterozoic sedimentary rocks (Bangemall Basin)
ELEVATION:	Average 300 m
RELIEF:	Less than 30 m on plains
MINOR LANDFORMS:	Laterite residuals and clay pans
BOUNDARIES:	Rugged lands to the west, gibber-covered Gibson unit to the east; Lake Disappointment unit to the south has loamy soils with red-brown hardpan
REFERENCES:	
TOPOGRAPHIC MAPS:	1:5 m Relief Map of Australia
GEOLOGICAL MAPS:	Australia 1:2.5 m, 1:5 m; 1:250 000 geological series
OTHER SOURCES:	1:5 m Landforms and Relief Map of Australia; 1:1 m Vegetation Survey of WA; Sheet 10NE Atlas of Australian Soils
COMMENTS:	
COMPILER:	GWD'A, DLG, Jan, 1986

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NAME:	LAKE EYRE
NUMBER:	322
STYLE:	Depositional
BASIC FORM:	Salt Lake
SOILS:	Crusty loamy soils with red clayey subsoils (Dr 1.33). Siliceous sands (Uc 1.2). Cracking clays (Ug 5.24, 25). Brown calcareous earths (Gc 1.22);
SOILS ASSOCIATION:	Nb26; DD27; CC107; Nb36; B43
DESCRIPTION:	A large playa complex of salt lake with gypsum dunes and surrounding plain with channels and dunes
REGOLITH:	Clay, halite, gypsum. Soils indicated as shorelines
GEOLOGY:	Cretaceous sandstone, siltstone, shale and some limestone forming shorelines and near other shorelines outcrops. Aeolian and residual quartz sands of Cainozoic age. Quaternary sands, silts, clays and evaporites (gypsum and halite)
ELEVATION:	Minus 5 m
RELIEF:	6-30 m
MINOR LANDFORMS:	Playa lake complexes, sediment jetties into lake and channel entry jetties. Gypsum and clay dunes, shoreline erosional features
BOUNDARIES:	Indicated by lake shorelines as appearing on topo maps used (1:1 m scale)
REFERENCES:	Laut & others (1977). [8.4.10]
TOPOGRAPHIC MAPS:	Tarcoola 1:1 m
GEOLOGICAL MAPS:	Australia 1:2.5 m
OTHER SOURCES:	CZCS imagery, Atlas of Australian Soils
COMMENTS:	
COMPILER:	MC, GT Jan 1986

NAME:	TEAL
NUMBER:	323
STYLE:	Erosional
BASIC FORM:	Dissected low tablelands
SOILS:	Brown calcareous earths (Gc 1.13, 33). Red earths (Gn 2.11). Loamy soils with weak pedologic development (Um 5.11)
SOILS ASSOCIATION:	DD29; BB33; Mx39; DD1.
DESCRIPTION:	Dissected low tablelands with mesas and buttes. Crossed by broad shallow valleys of variable size. Some seasonal swamps, clay pans
REGOLITH:	Tableland surface is silcreted. Footslopes gibber covered. Bedrock: deeply weathered shales
GEOLOGY:	Cretaceous sandstone, siltstone, shale, limestone. Cainozoic aeolian and residual quartz sand. Ferruginous, siliceous and aluminous duricrust
ELEVATION:	180-227 m
RELIEF:	20-50 m
MINOR LANDFORMS:	Numerous small claypans, lowlands swamps; some linear dunes; isolated hills mesas)
BOUNDARIES:	CZCS imagery patterns and soil map unit boundaries
REFERENCES:	Laut & others (1977). [8.3.2]
TOPOGRAPHIC MAPS:	Tarcoola 1:1 m
GEOLOGICAL MAPS:	Australia 1:2.5 m
OTHER SOURCES:	CZCS imagery, Atlas of Australian Soils
COMMENTS:	
COMPILER:	MC, GT Jan 1986

NAME:	OLARY SPUR
NUMBER:	324
STYLE:	Erosional
BASIC FORM:	Low hills
SOILS:	Amorphous loamy soils (Um 5.11,5.41); Highly calcareous loamy earths (Gc 1.12); Crusty loamy soils with red clayey subsoils (Dr 1.13); Hard setting loamy soils with red clayey subsoil (Dr 2.23)
SOILS ASSOCIATION:	BB1; Lb6; Na4; O 12; BB3; Fs; Na2
DESCRIPTION:	Low hilly belt of folded crystalline and sedimentry rocks. It comprises hogback ridges on metasediments and rounded granite hills. Gentle footslopes and pediments commonly form extensive elongated intramontane plains
REGOLITH:	Gravels (Telford gravel), eroded and redeposited in some areas; overlain by Loveday soil, Ripon Surface and Ripon Calcrete, Lower Pleistocene weathering profiles. Plio-Pleistocene silicified deposits. Pre-Tertiary ancient weathering profiles in Cambrian Rocks - overlain in places by Upper Palaeozoic sediments.
GEOLOGY:	Lower Proterozoic, Carpentarian, Adelaidean sediments, metamorphics, tillite and granitics of the Adelaide fold belt
ELEVATION:	450 to 700 m
RELIEF:	180 to 360 m in hills and ridges, 6-30 m footslopes, pediments, intramontane plains
MINOR LANDFORMS:	Hogback and cuesta ridges, alluvial fans
BOUNDARIES:	Soil map unit boundaries and physiographic units are the dominant influence in southern boundary. Some influence from soil map units in the north together with physiographic units and CZCS imagery patterns
REFERENCES:	Laut and others (1977) [5.2]
TOPOGRAPHIC MAPS:	Adelaide, Broken Hill 1:1 m
GEOLOGICAL MAPS:	Australia 1:2.5 m
OTHER SOURCES:	CZCS imagery, Atlas of Australian Soils
COMMENTS:	
COMPILER:	MC, GT Jan 1986

NAME: KANGAROO ISLAND
NUMBER: 325
STYLE: Erosional
BASIC FORM: Dissected tableland and coastal dune formations
SOILS: Calcareous sand soil of minimal development (Uc 1.11); Coherent sandy soils (Uc 6.13); Sand soils with mottled yellow clayey subsoils (Oy 5.43, 41, 91); Cracking clays (Ug 5.2)
SOILS ASSOCIATION: E10; Ya16,2,8,20; A1; Wa1; Wb2; CC7
DESCRIPTION: Dissected tableland with moderate to very steep slopes in central area of island. Coastal fringe and eastern area - coastal dune formations with small plains, undulating old dune formations largely stripped of sands exposing dune limestones. Undulating plains with swamps, lagoons, lunettes.
REGOLITH: Small areas of sandy acidic yellow soils with a laterite layer on the tableland remnants. Ironstone gravels on tableland. Commercial gypsum mining
GEOLOGY: Cambrian sandstone, siltstone, shale, conglomerate, limestone. Permian sandstone, siltstone, tillite, conglomerate. Cainozoic aeolian and residual quartz sand, alluvial, colluvial and lacustrine sand, silt, clay and gravel. Minor Quaternary gypsum, halite, clay and sand
ELEVATION: 0 to 267 m
RELIEF: 20-200 m
MINOR LANDFORMS: Dissected tableland surface; shoreline erosional features; lakes; linear dunes;
BOUNDARIES: Areal extent of island as shown on 1:1 m topo maps
REFERENCES: Parkin (1969)
TOPOGRAPHIC MAPS: Port Augusta, Adelaide, Du Couedic 1:1 m
GEOLOGICAL MAPS: Australia 1:2.5 m
OTHER SOURCES: Atlas of Australian Soils
COMMENTS:
COMPILER: GT, MC, Jan 1986

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NAME: FARNHAM
NUMBER: 326
STYLE: Depositional
BASIC FORM: Sandplain
SOILS: Red siliceous sands (Uc1.23)
SOILS ASSOCIATION: B40,41
DESCRIPTION: Dunefield
REGOLITH: Aeolian sand; gravelly soils and duricrust on residual hills; minor lacustrine sediment in claypans
GEOLOGY: Proterozoic sediments of the Amadeous Basin and Permian sediments of the Officer Basin
ELEVATION: Average 400 m
RELIEF: Generally low
MINOR LANDFORMS: Residual hills, claypans
BOUNDARIES: Gibber plains of the Gibson unit to the west; unit characterised by earthy sand soils and red earths to the north, east and south
REFERENCES: Jackson & van de Graaff (1981)
TOPOGRAPHIC MAPS: Lake Mackay, Petermann Ranges 1:1m
GEOLOGICAL MAPS: Australia 1:2.5 m
OTHER SOURCES: Atlas of Australian Soils Sheet 10 NW
COMMENTS:
COMPILER: DLG, Jan 1986

NAME:	TIBOOBURRA
NUMBER:	327
STYLE:	Erosional
BASIC FORM:	Tablelands and plains
SOILS:	Crusty loamy soils with red clayey subsoils (Dr 1.32, 33); Cracking clay (Ug 5.3); shallow coherent sands (Wc 1.43) Red earths (Gn 2.12, 13)
SOILS ASSOCIATION:	Nd 7; Mm66; BA50; Nb2,8,27; Mx36; My149.
DESCRIPTION:	Extensive, stony tableland and plains of Tertiary silcrete
REGOLITH:	Tertiary silcrete controls form of remnant tablelands and mesas, and contributes the stony mantle of the plains. Dune sand rare; sand mantles.
GEOLOGY:	Minor Proterozoic basement. Cambrian granite. Cretaceous sandstone, siltstone, shale, limestone. Cainozoic aeolian and residual quartz sand. Siliceous duricrust
ELEVATION:	180-332 m
RELIEF:	20-150 m
MINOR LANDFORMS:	Rare linear dunes; some lowlands swamps as lake extensions; lakes and river swamplands; cuesta ridges and mesas
BOUNDARIES:	Outlines higher +200 m areas on the plains in the Tibooburra area and includes the southern portion of the Grey Range in SW QLd. Dominantly soil map unit boundaries with physiographic basis and some influence from CZCS imagery patterns.
REFERENCES:	Abraham (1984)
TOPOGRAPHIC MAPS:	Broken Hill 1:1 m
GEOLOGICAL MAPS:	Australia 1:2.5 m
OTHER SOURCES:	CZCS imagery, Atlas of Australian Soils
COMMENTS:	
COMPILER:	MC, GT Jan 1986

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NAME:	BULLOO
NUMBER:	328
STYLE:	Depositional
BASIC FORM:	Floodout Plain
SOILS:	Self-mulching clays (Ug5.2, Ug5.3), red earths (Gn2.1)
SOILS ASSOCIATION:	CC, II, MM units, Mx35, My149
DESCRIPTION:	Floodplain and terminal floodout plain of Bulloo River, with claypans, calcreted flats, and northeast-trending aeolian seif dunes
REGOLITH:	Alluvium, aeolian sand, calcrete, overlie presumably weathered Tertiary Eyre Formation, and possibly Curalle silcrete profile. Deeply weathered Mesozoic rocks present at depth
GEOLOGY:	Cretaceous sediments of the Eromanga Basin, overlain by Cainozoic units
ELEVATION:	75 - 240
RELIEF:	Low - very low
MINOR LANDFORMS:	
BOUNDARIES:	Limit of Bulloo River floodplain
REFERENCES:	Mabbutt (1968), Abraham (1984), Ingram (1971)
TOPOGRAPHIC MAPS:	
GEOLOGICAL MAPS:	Central Eromanga Basin 1:1m
OTHER SOURCES:	Atlas of Australian Soils, CZCS imagery
COMMENTS:	
COMPILER:	DLG, Nov 1985

NAME:	EDENHOPE
NUMBER:	329
STYLE:	Depositional
BASIC FORM:	Dissected dunes and plains
SOILS:	Hard neutral and alkaline duplex soils with red clay subsoil (Dr 2.23, 2.22), grey cracking clay (Ug 5.2)
SOILS ASSOCIATION:	X2,5; CC9; Ke1; Cb7; Ya15; Vb1; D3
DESCRIPTION:	Undulating dissected dunes and plains. Swamps and lakes
REGOLITH:	Cross-bedded lateritised sands (Piocene); aeolian sands; caliche, quartz sands and sandy clay, silty clay, gypsum and halite. Kunkar horizon near Edenhope about 1 m thick (83% calcium carbonate)
GEOLOGY:	Cambro-Ordovician basement of sandstone, siltstone, chert. Covered by Tertiary marine sandstone, siltstone, mudstone. Minor middle and upper Palaeozoic basement exposed within a portion of the Dundas Tablelands in south of area. Cainozoic aeolian and residual quartz sand, alluvial, colluvial and lacustrine sand, silt, clay and gravel. Ferruginous, aluminous and siliceous duricrust in south
ELEVATION:	Less than 200 m
RELIEF:	Less than 5 m
MINOR LANDFORMS:	Region of lakes and swamplands; some dunes and low ridges, both existing and palaeoforms present.
BOUNDARIES:	Black Range and Grampians to the east; Dundas tablelands to the south; Round Hill Swamp to the north; Narracoote range to the west. Essentially physiographic boundary lines but also follows some soil map unit boundaries. Unit corresponds to the Winner (in part) of Hills (1940)
REFERENCES:	Hills (1940), Douglas and Fergusson (1976)
TOPOGRAPHIC MAPS:	Hamilton 1:1 m
GEOLOGICAL MAPS:	Australia 1:2.5 m
OTHER SOURCES:	Atlas of Australian Soils
COMMENTS:	
COMPILER:	MC, GT Jan 1986

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NAME:	WILSONS PROMONTORY
NUMBER:	330
STYLE:	Erosional
BASIC FORM:	Mountainous granitic massif
SOILS:	Shallow sand soils (Uc 4.1; Uc 1.11; Uc 2.3)
SOILS ASSOCIATION:	JJ2; A5; Cb12
DESCRIPTION:	A granitic massif forming rugged mountains and hills. Connected to mainland by a tongue of sand. Larger bays closed by baymouth bars, with lagoons and swamps behind
REGOLITH:	Peaks subject to strong wave attack around bases, leaving bare granitic rock faces. Shallow sand soils (saprolite) on granite. Lagoonal & swamp deposits behind baymouth bars.
GEOLOGY:	Granite
ELEVATION:	0 to 750 m
RELIEF:	750 m
MINOR LANDFORMS:	Tors
BOUNDARIES:	Physiographic boundaries
REFERENCES:	Hills (1975), Douglas and Fergusson (1976)
TOPOGRAPHIC MAPS:	Melbourne 1:1 m
GEOLOGICAL MAPS:	Australia 1:2.5 m
OTHER SOURCES:	CZCS imagery, Atlas of Australian Soils
COMMENTS:	
COMPILER:	GT, MC, Jan 1986

NAME:	CEDUNA DUNEFIELD
NUMBER:	331
STYLE:	Depositional
BASIC FORM:	Dune ridges
SOILS:	Sands soils of minimal pedologic development (Uc 1.11); Brown calcareous earths (Gc 1.12); Brown sand soils (Uc 5.11, 5.12); Shallow red brown sandy soils (Uc 6.13); Sandy soils with yellow clayey mottled subsoil (Dy 5.43, Dy 3.42)
SOILS ASSOCIATION:	DD32; A2; AA3; E9; E5; E7; DD7; Ya14,21,5; Gg3; Td3; Ua1; Ub7,8;
DESCRIPTION:	Low limestone dune ridges: small granitic islands with dunes
REGOLITH:	Ripon Calcrete; Loveday Soil in aeolian sand sheets, dune sand, red soils (terra rossa)
GEOLOGY:	Basement of Proterozoic (Carpentarian and Lower Proterozoic) granite and metamorphics of Gawler Block. Quaternary coastal aeolian calcareous sand; gypsum, halite, clay, limestone
ELEVATION:	0-391 m
RELIEF:	20-250 m
MINOR LANDFORMS:	Low linear dunes; sink holes; dolines; various karst features;
BOUNDARIES:	Closely related to soil map units, extends from coast to beginning of dunefield
REFERENCES:	Parkin (1969)
TOPOGRAPHIC MAPS:	Port Augusta, Nullarbor Plain, Tarcoola 1:1 m
GEOLOGICAL MAPS:	Australia 1:2.5 m
OTHER SOURCES:	CZCS imagery, Atlas of Australian Soils
COMMENTS:	
COMPILER:	MC, GT Jan 1986

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NAME:	LINCOLN
NUMBER:	332
STYLE:	Erosional
BASIC FORM:	Low rounded hills
SOILS:	Hard setting soils with mottled yellow clayey subsoils (Dy 3.42; Dy 3.61; Dy 3.22);
SOILS ASSOCIATION:	Ub7; Td3; Ua1
DESCRIPTION:	Low rounded hills
REGOLITH:	Ironstone gravels in soils on ridge tops. Alluvium, colluvium
GEOLOGY:	Lower Proterozoic granite of Gawler Block. Cainozoic alluvial, colluvial and lacustrine sand, silt, gravel and clay
ELEVATION:	180-322 m
RELIEF:	20-150 m
MINOR LANDFORMS:	Alluvial fans and terraces in valley tracts draining hills; lakes
BOUNDARIES:	Outlines +200 m hilly terrain in Port Lincoln area; boundary is physiogrpahic with some minor influence from soil map unit boundaries
REFERENCES:	Parkin (1969)
TOPOGRAPHIC MAPS:	Port Augusta 1:1 m
GEOLOGICAL MAPS:	Australia 1:2.5 m
OTHER SOURCES:	Atlas of Australian Soils
COMMENTS:	
COMPILER:	GT, MC, Jan 1986

NAME:	CLEVE
NUMBER:	333
STYLE:	Erosional
BASIC FORM:	Hills
SOILS:	Hard setting loamy soils with red clayey subsoils (Dr 2.23)
SOILS ASSOCIATION:	04
DESCRIPTION:	Hills with fringing outwash plains. Short footslopes and fans
REGOLITH:	Alluvial and colluvial sand, silt and clay. Loamy soils
GEOLOGY:	Lower Proterozoic metamorphics. Carpentarian conglomerates, dolomitic shales and quartzite in Gawler Block. Adelaidean sandstone, quartzite, dolomite, siltstone, and acid and basic volcanics
ELEVATION:	150-408 m
RELIEF:	20-200 m
MINOR LANDFORMS:	Alluvial, colluvial fans
BOUNDARIES:	Significantly influenced by physiographic boundaries and soil map units, and boundaries used in maps from environments of S.A.
REFERENCES:	Laut & others (1977) [4.3.10]
TOPOGRAPHIC MAPS:	Port Augusta 1:1 m
GEOLOGICAL MAPS:	Australia 1:2.5 m
OTHER SOURCES:	Atlas of Australian Soils
COMMENTS:	
COMPILER:	MC, GT Jan 1986

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NAME:	COWELL
NUMBER:	334
STYLE:	Erosional
BASIC FORM:	Plains
SOILS:	Brown calcareous earths (Gc 1.12, 22)
SOILS ASSOCIATION:	DD2, A2
DESCRIPTION:	Plains with isolated tracts of dunes. Also footslopes and low cliffs along coastline
REGOLITH:	Alluvial sand, silt, clay
GEOLOGY:	Lower Proterozoic metamorphics. Adelaidean acid and basic volcanics, sandstone, siltstone, conglomerate, dolomitic shales, quartzites. Cainozoic terrestrial limestone, minor sand and clay
ELEVATION:	0-200 m
RELIEF:	5-30 m
MINOR LANDFORMS:	Some coastal zone landforms: bays, beaches, tidal flats, dunes
BOUNDARIES:	Principally follows soil map unit boundaries
REFERENCES:	
TOPOGRAPHIC MAPS:	Port Augusta 1:1 m
GEOLOGICAL MAPS:	Australia 1:2.5 m
OTHER SOURCES:	Atlas of Australian Soils
COMMENTS:	
COMPILER:	MC, GT, Jan 1986

NAME: WHYALLA
NUMBER: 335
STYLE: Erosional
BASIC FORM: Plains
SOILS: Red calcareous earths (Gc 1.12), Sandy soils with mottled yellow clayey subsoils (Dy 5.43)
SOILS ASSOCIATION: Lb5; Ya10
DESCRIPTION:
REGOLITH: Calcrete development; gypsum dunes; play lakes with silt and clay deposits and evaporites
GEOLOGY: Lower Proterozoic metamorphics. Carpentarian conglomerates, dolomitic shales, quartzites and granite, volcanics and pyroclastics in Gawler Block. Adelaidean sandstone, quartzite, dolomite, and acid and basic lavas. Cainozoic aeolian and residual quartz sands; terrestrial limestone, minor sand and clay
ELEVATION: 0-446 m
RELIEF: 5-250 m
MINOR LANDFORMS: Salt lakes and flats. Occasional extensive hogback ridges; gypsum dunes at lake edges
BOUNDARIES:
REFERENCES: Laut & others (1977), Parkin (1969)
TOPOGRAPHIC MAPS: Port Augusta 1:1 m
GEOLOGICAL MAPS: Australia 1:2.5 m
OTHER SOURCES: CZCS imagery, Atlas of Australian Soils
COMMENTS:
COMPILER: MC, GT, Jan 1986

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NAME: GAWLER RANGES
NUMBER: 336
STYLE: Erosional
BASIC FORM: Hills and ranges
SOILS: Crusty loamy soils with red clayey subsoils (Dr 1.13, 1.33); Brown calcareous earths (Gc 1.12, 1.22); Amorphous loamy soils (Um 5.11)
SOILS ASSOCIATION: Na1; DD2; BB2
DESCRIPTION: Hills (often rounded) and ranges with intervening plains mostly small basin plains. Upland is old landsurface, visible as bevelled a summit plain sloping gently to north
REGOLITH: Shallow loamy soils on crests and slopes are rocky; also much rock outcrop. Footslopes covered with colluvium
GEOLOGY: Lower Proterozoic metamorphics. Carpentarian conglomerates, dolomitic shales; quartzites and granite, volcanics and pyroclastics in Gawler Block. Adelaidean sandstone, quartzite, dolomite, acid and basic lavas. Cainozoic aeolian and residual quartz sand; terrestrial limestone minor sand and clay
ELEVATION: 0-310 m
RELIEF: 20-200 m
MINOR LANDFORMS: Round hills and ranges; intermountane valley plains. Basinal plains
BOUNDARIES: Outlines hilly area on otherwise flat plain. Physiographic boundary with influence from soil map boundaries and CZCS imagery patterns
REFERENCES: Laut & others (1977), Parkin (1969)
TOPOGRAPHIC MAPS: Port Augusta 1:1 m
GEOLOGICAL MAPS: Australia 1:2.5 m
OTHER SOURCES: CZCS imagery, Atlas of Australian Soils
COMMENTS:
COMPILER: MC, GT, Jan 1986

NAME:	SHARK BAY
NUMBER:	337
STYLE:	Depositional
BASIC FORM:	Sand plains
SOILS:	Calcareous sandy soils
SOILS ASSOCIATION:	A18
DESCRIPTION:	Coastal sand dunes
REGOLITH:	Aeolian limestone, some bare rocks, some brown calcareous sand dunes
GEOLOGY:	Cretaceous bedrock overlain by sand
ELEVATION:	Average 0-10 m
RELIEF:	10 m
MINOR LANDFORMS:	Playas
BOUNDARIES:	Coastal area of mainly low relief
REFERENCES:	
TOPOGRAPHIC MAPS:	1:5 m Relief Map of Australia
GEOLOGICAL MAPS:	Australia 1:2.5 m, 1:5 m; 1:250 000 Series
OTHER SOURCES:	1:5 m Landform and Relief Map of Australia; 1:1m Vegetation Survey of WA; Sheet 6 Atlas of Australian Soils
COMMENTS:	
COMPILER:	GWD'A, Nov 1985

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NAME:	EXMOUTH
NUMBER:	338
STYLE:	Erosional/depositional
BASIC FORM:	Coastal plains with hills
SOILS:	Sandy soils on bedrock
SOILS ASSOCIATION:	Fy2 (on bedrocks), Sv7 (on dunes)
DESCRIPTION:	Coastal limestone plain with residual hills
REGOLITH:	Alluvium, dunes
GEOLOGY:	Cretaceous sediments mostly under Tertiary cover, Permian sediments; Palaeozoic metamorphic sedimentary and volcanic rock, Proterozoic granite (Carnarvon Basin & Gascoyne Province)
ELEVATION:	Mostly sea level, some 400 m
RELIEF:	400 m
MINOR LANDFORMS:	Linear sand dunes, alluvial plains
BOUNDARIES:	Coast, and topographical
REFERENCES:	
TOPOGRAPHIC MAPS:	1:5 m Relief Map of Australia
GEOLOGICAL MAPS:	Australia 1:2.5 m, 1:5 m; 1:250 000 Series
OTHER SOURCES:	1:5 m Landforms and Relief Map of Australia; 1:1 m Vegetation Survey of WA; Sheets 5, 6 Atlas of Australian Soils
COMMENTS:	
COMPILER:	GWD'A, Nov 1985

NAME:	SANDSTONE
NUMBER:	339
STYLE:	Erosional/depositional
BASIC FORM:	Low dissected plateaus
SOILS:	Shallow earths over hardpans, some calcrete, yellow earths
SOILS ASSOCIATION:	Be3, AC12
DESCRIPTION:	Broken slopes with breakaways, low hills and ridges
REGOLITH:	Deep weathering with duricrust (ferricrete)
GEOLOGY:	Archaean granite, basic and acid volcanics, metamorphosed igneous and sedimentary rocks (Yilgarn Block)
ELEVATION:	Average 300
RELIEF:	20 to 100 m
MINOR LANDFORMS:	Tors, mesas, playas, saline valleys with salt lakes, minor dunes around lakes and in valleys, some gypsum
BOUNDARIES:	Bounded by undulating plains
REFERENCES:	
TOPOGRAPHIC MAPS:	1:5 m Relief Map of Australia
GEOLOGICAL MAPS:	1:250 000 Series Maps; Australia 1:2.5 m and 1:5 m
OTHER SOURCES:	1:5 m Landform and Relief Map of Australia, 1:1 m Vegetation Map of WA, Sheet 5 & 6 Atlas of Australian Soils
COMMENTS:	
COMPILER:	GWD'A, Nov 1985

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NAME:	WILUNA
NUMBER:	340
STYLE:	Erosional/depositional
BASIC FORM:	Dissected Plateaus
SOILS:	Mainly shallow earths over hardpans, mottled and pallid zone outcrop, ferricrete and calcrete, red soil, saline calcrete, gypsum
SOILS ASSOCIATION:	BE6, 0C47
DESCRIPTION:	Undulating plains, dissected plateaus, granite hills and tors, some breakaways, pediments.
REGOLITH:	Deep weathered profile covered by extensive hardpan, ferricrete and calcrete, extensive surface gravels
GEOLOGY:	Archaean granite, Proterozoic sedimentary rocks, Archaean-Proterozoic metamorphics (Yilgarn Block, Glengarry subbasin, Gascoyne Province)
ELEVATION:	Average 300 m
RELIEF:	Less than 100
MINOR LANDFORMS:	Broad valleys with calcrete, some areas of ranges and high hills
BOUNDARIES:	Flat plains to the west & east, more rugged to the south and the north
REFERENCES:	
TOPOGRAPHIC MAPS:	1:5 m Relief Map of Australia
GEOLOGICAL MAPS:	Australia 1:2.5 m, 1:5 m; 1:250 000 Series
OTHER SOURCES:	1:5 m Landform and Relief Map of Australia; 1:1 m Vegetation Survey of WA; Sheets 5, 6 Atlas of Australian Soils
COMMENTS:	
COMPILER:	GWD'A, Nov 1985

NAME:	MOUNT FISHER
NUMBER:	341
STYLE:	Depositional (/erosional)
BASIC FORM:	Sand plain
SOILS:	Red earthy sands (Uc5.21), red siliceous sands (Uc1.23), shallow stony sands and sandy loams, red earths (Gn2.12), saline soils
SOILS ASSOCIATION:	AB50,52, BY7, My99, Sv5
DESCRIPTION:	Plains with longitudinal sand dunes; lateritic breakaways; saline lakes in the south
REGOLITH:	Aeolian sand; gravel pavements; ferruginous and siliceous duricrust on rises and breakaways; red brown hardpan in places; saline alluvium in salt lakes
GEOLOGY:	Archaean granite and greenstones of the Yilgarn Block
ELEVATION:	300 average
RELIEF:	Low - moderate
MINOR LANDFORMS:	
BOUNDARIES:	Area characterised by earthy sand soils
REFERENCES:	
TOPOGRAPHIC MAPS:	Australia 1:2.5 m
GEOLOGICAL MAPS:	Australia 1:2.5 m and 1:5 m
OTHER SOURCES:	Atlas of Australian Soils Sheets 10 NW and 10 SW
COMMENTS:	
COMPILER:	DLG, Jan 1986

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NAME:	CARNEGIE
NUMBER:	342
STYLE:	Erosional (/depositional)
BASIC FORM:	Gently sloping plains, undulating pediments, stony and gravellyp
SOILS:	Shallow earthy loams, gravels, hard alkaline red soils, saline soils
SOILS ASSOCIATION:	BE6, Oc49, SV5,11, Fz30, Fa33
DESCRIPTION:	Partially dissected pediments, some low stony hills
REGOLITH:	Stony soils on steeper slopes, red-brown hardpan on lower slopes and on small areas of valley plains, salt lakes, gypsum dunes, claypans, salt pans, calcrete replacing and cementing alluvium
GEOLOGY:	Proterozoic sandstone, shale & dolomite, minor Proterozoic dolerite, Archaean granite (Bangemall Basin), Palaeozoic and Mesozoic sediments (Officer Basin)
ELEVATION:	Average 300 m
RELIEF:	From 10 m to 200 m
MINOR LANDFORMS:	
BOUNDARIES:	Steep ranges to the west, plain with sand dunes to the north and south
REFERENCES:	Jackson & van de Graaff (1981), van de Graaff & others (1977)
TOPOGRAPHIC MAPS:	1:5 m Relief Map of Australia; Wiluna, Kalgoorlie 1:1 m
GEOLOGICAL MAPS:	Australia 1:2.5 m, 1:5 m; 1:250 000 Series
OTHER SOURCES:	1:5 m Landforms and Relief Map of Australia; 1:1 m Vegetation Survey of WA; Sheets 6, 10NW/10SW Atlas of Australian Soils
COMMENTS:	
COMPILER:	GWD'A, GT, DLG, Jan 1986

NAME: AMATA
NUMBER: 343
STYLE: Erosional
BASIC FORM: Bare rocks
SOILS: Shallow stony sands, neutral red earths
SOILS ASSOCIATION: BA34, My114,116,117
DESCRIPTION: Sandy plains broken by granitic ranges, hills, ridges and undulating plateaus
REGOLITH: Aeolian sand on plains; bare rocks, occasional laterite- or silcrete-capped buttes, low rubbly calcrete mounds, clay in swamp and clay flat areas
GEOLOGY: Proterozoic metamorphic sedimentary, volcanic and igneous rocks, Proterozoic granite (Musgrave Block)
ELEVATION: Average 600 m
RELIEF: 30 m
MINOR LANDFORMS: Swamps (seasonal)
BOUNDARIES: Surrounded mainly by dunefields with red earthy sand soils
REFERENCES:
TOPOGRAPHIC MAPS: Relief Map of Australia 1:5 m
GEOLOGICAL MAPS: Australia 1:2.5 and 1:5 m; Cainozoic of the NT 1:2.5 m; 1:250 000 Geological series
OTHER SOURCES: Australian Relief and Landforms 1:5 m; Cainozoic Cover and Weathering 1:10 m; Sheets 10NW & 10NE Atlas of Australian Soils; Australian Major Stru
COMMENTS:
COMPILER: GWD'A, DLG, Jan 1986

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NAME: MULGA PARK
NUMBER: 344
STYLE: Plains with short and irregular shaped d
BASIC FORM: Depositional(/erosional)
SOILS: Red earthy sands, red siliceous sands on dunes, red earths on plains
SOILS ASSOCIATION: AB60,31,65, My113
DESCRIPTION: Plains with many short and irregular shaped dunes, flat to gently undulating sand plains with some low broad sand rises and intervening swales, sandy plains flanking granitic ranges (Northern Territory portion only)
REGOLITH: Aeolian sand, some laterite- and silcrete- capped ridges, shallow stream valleys, calcrete mounds
GEOLOGY: Proterozoic sediments, some Proterozoic metamorphosed sedimentary and volcanic rocks (Musgrave Block)
ELEVATION: Average 300 m
RELIEF: 30 m
MINOR LANDFORMS: Alluvial flats, clay pans, stone-covered ridges
BOUNDARIES: Plains with longitudinal dunes
REFERENCES:
TOPOGRAPHIC MAPS: Australia 1:2.5 m
GEOLOGICAL MAPS: Australia 1:2.5 m
OTHER SOURCES: Atlas of Australian Soils
COMMENTS:
COMPILER: GWD'A, 28 Nov, 1985

NAME:	TOMKINSON
NUMBER:	345
STYLE:	Erosional/depositional
BASIC FORM:	Ranges and plains
SOILS:	Red earths (Gn2.12), red earthy sands (Uc5.21)
SOILS ASSOCIATION:	My109,111,112,114, BA34
DESCRIPTION:	Ranges with stony hills and flanking outwash plains, sand plains and erosional plains
REGOLITH:	Ferruginous and siliceous duricrust on hills and ranges; colluvium and alluvium in outwash plains; aeolian sand; calcrete in some areas
GEOLOGY:	Proterozoic rocks of the Musgrave Block
ELEVATION:	500 - 1100 m
RELIEF:	Low - high
MINOR LANDFORMS:	
BOUNDARIES:	Area with red earth soils predominating
REFERENCES:	
TOPOGRAPHIC MAPS:	Petermann Ranges 1:1m
GEOLOGICAL MAPS:	Australia 1:5 m
OTHER SOURCES:	Atlas of Australian Soils Sheet 10 NW
COMMENTS:	
COMPILER:	DLG, Jan 1986

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NAME:	MOUNT COCKBURN
NUMBER:	346
STYLE:	Depositional(/erosional)
BASIC FORM:	Sand plains
SOILS:	Red earthy sands
SOILS ASSOCIATION:	AB65,60
DESCRIPTION:	Sandy plains, some rocky tors and outcrops
REGOLITH:	Aeolian sand, laterite and silcrete-capped ridges and buttes, alluvium in shallow stream valleys and small salt pans; minor calcrete mounds
GEOLOGY:	Proterozoic metamorphosed igneous, sedimentary and volcanic rocks; minor Proterozoic granite (Musgrave Block)
ELEVATION:	Average 600 m
RELIEF:	30 m
MINOR LANDFORMS:	Ranges and undulating plateaus
BOUNDARIES:	Surrounded by areas of ranges and flanking plains characterised by red earth soils
REFERENCES:	
TOPOGRAPHIC MAPS:	Relief Map of Australian 1:5 m
GEOLOGICAL MAPS:	Australia 1:2.5 m and 1:5 m; Cainozoic of the NT 1:2.5 m; 1:250 000 Geological series
OTHER SOURCES:	Australian Relief and Landforms 1:5 m; Cainozoic Cover and Weathering 1:10 m; Sheet 10NW Atlas of Australian Soils; Australian Major Structural D
COMMENTS:	
COMPILER:	GWD'A, DLG, Jan 1986

NAME:	LAKE AMADEUS
NUMBER:	347
STYLE:	Depositional(/erosional)
BASIC FORM:	Dunes, some hilly residuals with rock outcrops
SOILS:	Red earthy sands (interdunes), red siliceous sands (on the dunes), shallow loams, saline clays
SOILS ASSOCIATION:	AB56,60,65, SV12, My109,113,114,111, BA21,27,31, Mx21,23
DESCRIPTION:	Plains extensively covered with longitudinal dunes; some hilly residuals with rock outcrops; plains with short and irregular shape; sandy plains flanking granitic ranges, hills and ridges. Some bare rocks
REGOLITH:	Laterite and silcrete-capped ridges and buttes; some rubbly calcrete mounds; plains studded with salt pans, seasonal lakes; calcrete platforms and fringing dunes, some lateritic conglomerates, some lateritic duricrust
GEOLOGY:	Proterozoic, Ordovician, Devonian and Carboniferous rocks, Proterozoic granite, metamorphic, igneous and minor sedimentary rocks (Amadeus Basin and Musgrave? Block)
ELEVATION:	Average 300 - 600 m
RELIEF:	10 - 20 m
MINOR LANDFORMS:	Outwash plains and dissected fans and terrace formations flanking ranges of sedimentary and some metamorphic, volcanic, and granite rocks, steep
BOUNDARIES:	Area of sandy plains and ridges
REFERENCES:	
TOPOGRAPHIC MAPS:	Relief Map of Australia 1:5 m
GEOLOGICAL MAPS:	Australia 1:2.5 m & 1:5 m; Cainozoic of the NT 1:2.5 m; 1:250 000 geological series
OTHER SOURCES:	Relief and Landforms of Australia 1:5 m; Cainozoic Cover and Weathering 1:10 m; Sheets 10 NW and 10 NE Atlas of Australian Soils; Australian Majo
COMMENTS:	
COMPILER:	GWD'A, Nov 1985

NAME:	HENBURY
NUMBER:	348
STYLE:	Erosional
BASIC FORM:	Bare rocks, bold ranges, steep narrow ranges
SOILS:	Shallow stony sands, red earths
SOILS ASSOCIATION:	BA 29,28(26), Mx25, My105,108,118
DESCRIPTION:	Bare rocks, rugged mountain ranges on gneiss and schists, some basic intrusives; some quartzite and sandstone ridges; plateaus and low hilly areas on limestone, dolomite, calcareous sandstone, siltstone and sandstone; plains with low rocky hills, terraces flanking ranges, some mesas
REGOLITH:	Bare rocks, scattered dunes, variable stone and gravel pavement, some gilgai with soils in the depressions, sandy banks and channels
GEOLOGY:	Proterozoic-Ordovician, Devonian and Carboniferous sedimentary rocks, Metamorphosed sedimentary and volcanic rocks, granite (Amadeus Basin and Arunta Block)
ELEVATION:	Average 300 - 600
RELIEF:	400 m
MINOR LANDFORMS:	Small plains, narrow valleys, sandy plains with low sandy rises and scattered dunes
BOUNDARIES:	Surrounded by area of dunefields, sand plains and dissected plateaus, hilly residuals with rock outcrops
REFERENCES:	
TOPOGRAPHIC MAPS:	Relief Map of Australian 1:5 m
GEOLOGICAL MAPS:	Australia 1:2.5 & 1:5 m; Cainozoic of the NT 1:2.5 m; 1:250 000 geological series
OTHER SOURCES:	Relief and Landform of Australia 1:5 m; Cainozoic Cover and Weathering 1:10 m; Sheets 10NE, 10NW, Atlas of Australian Soils; Australian Major Str
COMMENTS:	
COMPILER:	GWD'A, Nov 1985

NAME: PAPUNYA
NUMBER: 349
STYLE: Erosional/depositional
BASIC FORM: Sand plains, low hills, dissected plateaus
SOILS: Red earthy sands, red siliceous sands on the sand rises
SOILS ASSOCIATION: AB31,58, Mx23, My105, BA12, B32, BC2
DESCRIPTION: Flat to gently undulating sand plains with some low broad sandrises and intervening swales; low rocky hills; dissected plateaus, mesas, and buttes on sandstone, siltstone and conglomerate; dune fields
REGOLITH: Bare rocks, stone-covered ridges, sand plains, low rises and scarps with some lateritic duricrusts; calcrete, some gypsum deposits
GEOLOGY: Proterozoic metamorphosed sedimentary and volcanic rocks, and granite, sedimentary rocks (Ngalia Basin and Arunta Block)
ELEVATION: Average 300-600 m
RELIEF: 30 m
MINOR LANDFORMS: Alluvial flats, clay pans, narrow drainage ways; riverine plains
BOUNDARIES: Surrounded by bare rocks, bold ranges, undulating uplands, dunes
REFERENCES:
TOPOGRAPHIC MAPS: Relief Map of Australian 1:5 m
GEOLOGICAL MAPS: Australia 1:2.5 m & 1:5 m, Cainozoic of the N.T. 1:2.5 m; 1:250 000 geological series
OTHER SOURCES: Relief and Landforms of Australia 1:5 m; Cainozoic Cover and Weathering 1:10 m; Sheets 10NW, 10NE, Atlas of Australian soils; Australian Mafic St
COMMENTS:
COMPILER: GWD'A, Nov 1985

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NAME: NAPPERBY
NUMBER: 350
STYLE: Erosional
BASIC FORM: Ranges and ridges, rocky hills
SOILS: Shallow stony sands, red earths mantled with stones and gravels
SOILS ASSOCIATION: BA25,29,32, Mx 24,27, My105,106, AB31,58
DESCRIPTION: Steep ranges and ridges with narrow valleys on sandstone, quartzite and conglomerate; rugged mountain ranges on gneiss and schists; sandy plains on granite with occasional rocky hills and ridges
REGOLITH: Bare rocks, quartz gravels and stone-covered ridges
GEOLOGY: Proterozoic, Devonian & Carboniferous gneiss and schists, basic intrusives, quartzite and sandstone, granite (Ngalia Basin & Arunta Block)
ELEVATION: Average 600 m
RELIEF: 200 m
MINOR LANDFORMS: Small valley plains, outwash plains and fans, gently undulating plains, some clay pans, occasional dunes
BOUNDARIES: Sand plains and dissected plateaus, uplands and dune fields
REFERENCES:
TOPOGRAPHIC MAPS: Relief Map of Australia 1:5 m
GEOLOGICAL MAPS: Australia 1:2.5 and 1:5 m; Cainozoic of the NT 1:2.5 m; 1:250 000 Geological Series
OTHER SOURCES: Australian Relief and Landforms 1:5 m; Cainozoic Cover and Weathering 1:10 m; Sheets 10NW & 10NE Atlas of Australian Soils; Australian Major Stru
COMMENTS:
COMPILER: GWD'A, Nov, 1985

NAME: DAVIDSON
NUMBER: 351
STYLE: Depositional
BASIC FORM: Sandplains and poorly developed dune formations
SOILS: Red earthy sands, some yellow earthy sands on gently sloping plains and some siliceous sands in flood-plain areas, shallow sands with large amoun
SOILS ASSOCIATION: AB 30,29,31, NT11, My119, (By4, B32)
DESCRIPTION: Flat to gently undulating sand plains, poorly developed dune formations, some stone-covered ridges.
REGOLITH: Block laterite at depth below the soil, ironstone gravels, shallow ironstone gravely sands, broad shallow drainage floors with calcrete, some rocky ridges and hills capped by laterite
GEOLOGY: Proterozoic, Cambrian, Ordovician and Palaeozoic sedimentary rock and Proterozoic granites of the Arunta Block, the Granites-Tanami Block and Wiso Basin
ELEVATION: Average 300 m
RELIEF: Less than 20 m
MINOR LANDFORMS: Undulating ridge and slope terrain on lateritised sediments, some rock outcrops, minor dune fields, minor calcrete areas
BOUNDARIES: Surrounded by hills and ranges, and broad uplands
REFERENCES:
TOPOGRAPHIC MAPS: Relief Map of Australian 1:5 m
GEOLOGICAL MAPS: Australia 1:2.5 m & 1:5 m; Cainozoic of the NT 1:2.5 m; 1:250 000 geological series
OTHER SOURCES: Relief and Landforms of Australia 1:5 m; Cainozoic Cover and Weathering of Australia 1:10 m; Sheets 8, 10NE & 10NW Atlas of Australian Soilsl; A
COMMENTS:
COMPILER: GWD'A, Nov 1985

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NAME: LOTHARI HILL
NUMBER: 352
STYLE: Depositional/erosional
BASIC FORM: Low rises, pediments, plains and bare rocks
SOILS: Red earthy sands, red siliceous sands
SOILS ASSOCIATION: BA5, AB29, B32,31
DESCRIPTION: Low rises, pediments and bare rocks, gently undulating plains.
REGOLITH: Residual gravels development over laterite crusts, some laterite outcrop
GEOLOGY: Proterozoic Cambrian & Ordovician sediments (the Granites-Tanami Block; Wiso Basin)
ELEVATION: Average 300 m
RELIEF: Less than 20 m
MINOR LANDFORMS: Dune fields, gently undulating plains
BOUNDARIES: Unit contained within flat to gently undulating sand plains and stone-covered ridges.
REFERENCES:
TOPOGRAPHIC MAPS: Relief Map of Australia 1:5 m
GEOLOGICAL MAPS: Australia 1:2.5 &1:5 m; Cainozoic of the NT 1:2.5 m
OTHER SOURCES: Australian Relief and Landforms 1:5 m; Cainozoic Cover and Weathering 1:10 m; Sheets 8, 10NE & 10NW Atlas of Australian Soils; Australian Major S
COMMENTS:
COMPILER: GWD'A, 28 Nov, 1985

NAME:	MOUNT WOODCOCK
NUMBER:	353
STYLE:	Erosional
BASIC FORM:	Hilly terrains, uplands, slopes and valleys
SOILS:	Stony and gravelly siliceous sands, red earthly sands
SOILS ASSOCIATION:	BV1 (also II6, AB30, CC59)
DESCRIPTION:	Low hilly to hilly terrains, some flat upland areas; irregular steep to moderate slopes and narrow valleys
REGOLITH:	Silcrete on many rock out crops, soils overlying laterite or ironstone gravels on small flat-topped ridges, ironstone gravel and block laterite may occur at depth below the soil
GEOLOGY:	Proterozoic sediments of the Tomkinson Geosyncline
ELEVATION:	Average 150 m
RELIEF:	Up to 200 m
MINOR LANDFORMS:	Flat to very gently undulating plains, with poorly developed dunes formations in some parts
BOUNDARIES:	Surrounded by undulating plains
REFERENCES:	
TOPOGRAPHIC MAPS:	Relief Map of Australia 1:5 m
GEOLOGICAL MAPS:	Australia 1:2.5 m & 1:5 m; Cainozoic of the NT 1:2.5 m; 1:250 000 geological series
OTHER SOURCES:	Relief and Land Forms in Australia 1:5 m; Sheet 8 Atlas of Australian Soils
COMMENTS:	
COMPILER:	GWD'A, Nov 1985

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NAME:	DALY WATERS
NUMBER:	354
STYLE:	Erosional
BASIC FORM:	Plains mantled with stones, some low stony rises
SOILS:	Neutral red earths, red & brown shallow porous loamy soils, clays
SOILS ASSOCIATION:	My79,73,70, GG5, SQ1, CC53, Ms 13, 002
DESCRIPTION:	Gently undulating country, some hilly portions on intermediate and basic rocks, some plateau remnants with volcanic measa and buttes
REGOLITH:	Deep weathering, ironstone gravels, some weathered clay
GEOLOGY:	Cretaceous and Cambrian-Ordovician sediments partially covered by Tertiary sediments (Daly River Basin)
ELEVATION:	Average 100 m
RELIEF:	100-200 m
MINOR LANDFORMS:	Flat to undulating plains with areas of very rough karst topography and developed on limestone, minor flood plains, low lying alluvial plains
BOUNDARIES:	Surrounded by ridges, dissected plateaux
REFERENCES:	
TOPOGRAPHIC MAPS:	Relief Map of Australia 1:5 m
GEOLOGICAL MAPS:	Australia 1:2.5 m & 1:5 m; Cainozoic of the NT 1:2.5 m; 1:250 000 geological series
OTHER SOURCES:	Australia Relief and Landforms 1:5 m; Sheet 8 Atlas of Australian soils
COMMENTS:	
COMPILER:	GWD'A, Nov 1985

NAME: POINT STUART
NUMBER: 355
STYLE: Erosional
BASIC FORM: Dissected low plateaus, gently undulating plains, coastal cliffs
SOILS: Sandy and loamy red and yellow earths, white sands, small swamps
SOILS ASSOCIATION: Mw32,35,36, Jw1, Jy2, Nn3,4, Lk22,24, AB32, Mr8
DESCRIPTION: Dissected low plateaus with flat to undulating plateau crests and dissected sloping margins, cliffs along coastal margins; narrow stream valleys with small swampy areas; dissected rolling lowlands, andy plains
REGOLITH: Stepped ridgers and breakaways, ironstone gravels, blocky laterite in places
GEOLOGY: Archaean-Proterozoic granites, Proterozoic sediments, metamorphosed sedimentary and volcanic rocks (Pine Creek Inlier)
ELEVATION: Average less than 20 m
RELIEF: Less than 50 m
MINOR LANDFORMS: Seasonally flooded coastal plains, hilly to steep hilly ranges and strike ridges mainly on greywacke, siltstone and some sandstone; dissected sca
BOUNDARIES: Hills and ranges, coastline
REFERENCES:
TOPOGRAPHIC MAPS: Relief Map of Australia 1:5 m
GEOLOGICAL MAPS: 1:250 000 series; Cainozoic of the NT 1:2.5 m; Australia 1:2.5 m and 1:5 m
OTHER SOURCES: Australian Landform and Relief 1:2.5 m; Sheet 8 Atlas of Australian Soils
COMMENTS:
COMPILER: GWD'A, Nov 1985

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NAME: BURRUNDIE
NUMBER: 356
STYLE: Erosional
BASIC FORM: Hills and ranges, bare rocks
SOILS: Shallow stony and gravelly loams and sands, yellow earthy sands with ironstone gravels
SOILS ASSOCIATION: LK23,22, Wd13, Tb134, Va73
DESCRIPTION: Hilly to steep hilly ranges and strike ridges, strongly undulating to hilly terrain
REGOLITH: Stony and gravelly and red earths on dolerite and andesites
GEOLOGY: Proterozoic greywacke, siltstone, some sandstone, granite (Pine Creek Inlier, McArthur Basin)
ELEVATION: Average less than 100 m
RELIEF: Less than 200 m
MINOR LANDFORMS: Open flat to gently sloping plains traversed by streams flanked by levees and active flood plains
BOUNDARIES: Undulating plains
REFERENCES:
TOPOGRAPHIC MAPS: Relief Map of Australia 1:5 m
GEOLOGICAL MAPS: 1:250 000 series, Cainozoic of the NT, Australia 1:2.5 m and 1:5 m
OTHER SOURCES: Australian Relief and Landforms 1:5 m; Sheet 8 Atlas of Australian Soils
COMMENTS:
COMPILER: GWD'A, Nov 1985

NAME: PORT KEATS
NUMBER: 357
STYLE: Depositional (Erosional)
BASIC FORM: Undulating plains, low bouldery sandstone hills, coastal plains
SOILS: sandy acid yellow mottled soils, red earths, deep sandy soils, saline clays, deep red and yellow siliceous sands, cracking clays
SOILS ASSOCIATION: Wd11, 12, JW1, B31, Mt4, MN5
DESCRIPTION: Gently undulating plains developed on sandstone, limestone and shales, undulating terrain on granites, some scattered rocky hills; low-lying coastal plains with some sand dunes
REGOLITH: Some laterite, ironstone gravels, poorly defined seasonally flooded drainage-ways; some massive laterite, saline clays on the flat to very gently sloping plains
GEOLOGY: Proterozoic granite, Archaean-Proterozoic sediments, Proterozoic sediments (Litchfield Inlier), Permo-Triassic, Carboniferous, and Devonian sediments (Bonaparte Basin)
ELEVATION: Average 0 - 10
RELIEF: 10 m
MINOR LANDFORMS: Coastal plains, slopes and tidal flats, small area of calcareous and/or siliceous sands on coastal dunes
BOUNDARIES: Ridges and dissected plateaus
REFERENCES:
TOPOGRAPHIC MAPS: Relief Map of Australia 1:5 m
GEOLOGICAL MAPS: 1:250 000 geological series; Cainozoic of the NT 1:2.5 m; Australia 1:2.5 m and 1:5 m
OTHER SOURCES: Australian Relief and Landforms 1:5 m; Sheets 8 and 9, Atlas of Australian Soils
COMMENTS:
COMPILER: GWD'A, Nov 1985

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NAME: AUVERGNE
NUMBER: 358
STYLE: Depositional/erosional
BASIC FORM: Ridges, cuestas, plateaus, mesas, buttes, undulating plains
SOILS: Shallow sandy and stony soils, loamy soils, red earths
SOILS ASSOCIATION: BA6, Fz21,22, Gg5, My66,67, Ms13, CC15
DESCRIPTION: Rugged stony country, ridges, cuestas and plateaus with some sloping or low hilly dissected areas, hilly limestone country, gently undulating plains, and alluvial plains
REGOLITH: Bare rocks, gently undulating plains on lateritised volcanics, sedimentary and metamorphic rocks, ironstone gravels
GEOLOGY: Proterozoic sandstone, quartzite, shale and some limestone. Cambrian volcanics and sediments (Victoria River and Ord River Basins)
ELEVATION: Average less than 100
RELIEF: 200 m
MINOR LANDFORMS: Narrow valley plains with hard neutral and also alkaline red soils. Hilly, rocky, limestone country.
BOUNDARIES: Bounded by undulating plains (NT), and rocky ridges and undulating stony country (WA)
REFERENCES:
TOPOGRAPHIC MAPS: Relief map of Australia 1:5 m
GEOLOGICAL MAPS: Cainozoic of the NT 1:2.5 m; Australia 1:2.5 m and 1:5 m; 1:250 000 series
OTHER SOURCES: Australia Relief and Landforms 1:5 m; Sheets 8 and 9 Atlas of Australian Soils
COMMENTS:
COMPILER: GWD'A, Nov 1985

NAME:	FORREST
NUMBER:	359
STYLE:	Erosional
BASIC FORM:	Rugged stony country, bare rocks
SOILS:	Shallow sandy, commonly stony or loamy soils, shallow gritty sandy soils
SOILS ASSOCIATION:	BA6, JJ25,26,27
DESCRIPTION:	Rugged stony country of ridges, cuestas and plateaus with some sloping or low hilly dissected areas on sandstone, quartzite, shale and some limestone
REGOLITH:	Bare Rock outcrop, dissected areas, narrow valley plains of limited extent, stony soils
GEOLOGY:	Proterozoic sedimentary rocks, Proterozoic basic and ultrabasic rocks, Proterozoic granite, Devonian sedimentary rocks (Halls Creek Province, Ord Basin, Bonaparte Gulf Basin)
ELEVATION:	Average 300 m
RELIEF:	300 m
MINOR LANDFORMS:	Granite domes with intervening alluvial plains; Rocky sandstone plateaus and hills; gentle lower slopes, some deeply incised valleys; undulaitng
BOUNDARIES:	Surrounded by gently undulating country and coastal plains; rocky plateaus and ridges to the south
REFERENCES:	
TOPOGRAPHIC MAPS:	1:5 m Relief Map of Australia
GEOLOGICAL MAPS:	Australia 1:2.5 m and 1:5 m; 1:250 000 Geological Series
OTHER SOURCES:	Landforms and Relief Map of Australia 1:5 m; Sheets 8 & 9 Atlas of Austrlaian Soils
COMMENTS:	
COMPILER:	GWD'A, NOV 1985

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NAME:	THEDA
NUMBER:	360
STYLE:	Erosional
BASIC FORM:	Undulating country
SOILS:	Sands with ferruginous gravel, shallow stony soils
SOILS ASSOCIATION:	JK14, Mo21,22, My62
DESCRIPTION:	Undulating country with widely spaced steep-sided residuals, hilly and mountainous country, extensive valley plains
REGOLITH:	Stony soils, rock outcrop on interfluves, deeper sands on foot slopes, and gravelly hard mottled soils on plateau tops where drainage is restricted
GEOLOGY:	Proterozoic basalt plateaus with widely separated low hilly interfluves with some exposure of underlying sandstone (Kimberley Basin)
ELEVATION:	Average 300 m
RELIEF:	Less than 30 m
MINOR LANDFORMS:	Gently undulaitng country developed on shale and sandstone, sandstone-capped scarps with much rock outcrop
BOUNDARIES:	Rugged stony country and bare rocks
REFERENCES:	
TOPOGRAPHIC MAPS:	1:5 m Relief Map of Australia
GEOLOGICAL MAPS:	Australia 1:2.5 m & 1:5 m; 1:250 000 Geological series
OTHER SOURCES:	Landform and Relief Map of Australia 1:5 m; Sheet 9 Atlas of Australian Soils; Vegetation Survey of WA 1:1 000 000
COMMENTS:	
COMPILER:	GWD'A, Nov 1985

NAME:	PANTER DOWNS
NUMBER:	361
STYLE:	Erosional
BASIC FORM:	Rugged stony country
SOILS:	Shallow sandy and stony soils, red earths with a layer of fine ferruginous gravel on the surface
SOILS ASSOCIATION:	BA6, MO22, My62, JK14
DESCRIPTION:	Rugged stony country, ridges cuestas and plateaus with some sloping or low hilly dissected areas; extensive valley plains, undulating country developed on basalt with some exposure of underlying sandstone
REGOLITH:	Stony country, dissected bare rocks
GEOLOGY:	Proterozoic sandstone, quartzite, shale and some limestone, basalt and dolerite (Kimberley Basin)
ELEVATION:	Average 300 m
RELIEF:	Up to 100 m
MINOR LANDFORMS:	Gently undulating country developed on sandstone
BOUNDARIES:	Undulating country and undulating to low hills
REFERENCES:	
TOPOGRAPHIC MAPS:	1:5 m Relief Map of Australia
GEOLOGICAL MAPS:	Australia 1:2.5 m & 1:5 m; 1:250 000 Geological series
OTHER SOURCES:	Landform and Relief Map of Australia 1:5 m; Sheet 9 Atlas of Australian Soils; Vegetation Survey of WA 1:1 000 000
COMMENTS:	
COMPILER:	GWD'A, Nov, 1985

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NAME:	LANSDOWNE
NUMBER:	362
STYLE:	Erosional
BASIC FORM:	Mountainous sandstone country, ridges, cuestas, plateaus
SOILS:	Shallow sands, some ironstone gravels on broad plains, stony soils
SOILS ASSOCIATION:	BA2,3, Qb34, Gj1, JJ24
DESCRIPTION:	Mountainous sandstone country with narrow valleys cut into basalt. Ridges, cuestas, and plateaus formed in sandstone, quartzite, shale and some limestone
REGOLITH:	Stony country, some ironstone gravels
GEOLOGY:	Proterozoic basalt, sandstone, quartzite, shale and some limestone; minor granite (Kimberley Basin)
ELEVATION:	Average 300 m
RELIEF:	From 100 to 300 m
MINOR LANDFORMS:	Mountains and hills developed from granitic rocks
BOUNDARIES:	Undulating to hilly country, some rocky ridges
REFERENCES:	
TOPOGRAPHIC MAPS:	1:5 m Relief Map of Australian
GEOLOGICAL MAPS:	Australia 1:2.5 m & 1:5 m; 1:250 000 Geological series
OTHER SOURCES:	Landforms and Relief of Australia 1:5 m; Sheet 9 Atlas of Australian Soils; Vegetation Survey of WA 1:1 m
COMMENTS:	
COMPILER:	GWD'A, Nov, 1985

NAME:	ALICE DOWNS
NUMBER:	363
STYLE:	Erosional
BASIC FORM:	Mountainous country, rocky ridges
SOILS:	Shallow stony sandy soils, neutral hard red soils, red earths
SOILS ASSOCIATION:	JJ24, F9, Qb33,34, Mz27
DESCRIPTION:	Mountainous country developed from granitic rocks, gently undulating broad valley floors
REGOLITH:	Much rock outcrop on crests and upper slopes, soils on lower slopes and on valley plains, laterite plateaus and scattered granite hills
GEOLOGY:	Proterozoic metamorphic sedimentary, volcanic rocks; quartzite, sandstone, shale; Proterozoic granite and dolerite, Devonian rocks (Halls Creek Province & Ord Basin)
ELEVATION:	Average 300 m
RELIEF:	300 - 400 m
MINOR LANDFORMS:	Rocky plateaus and ridges with some broad valley floors
BOUNDARIES:	Sandplains, dune fields, mountainous sandstone, bare rocks
REFERENCES:	
TOPOGRAPHIC MAPS:	1:5 Relief Map of Australia
GEOLOGICAL MAPS:	Australia 1:2.5 & 1:5 m; 1:250 000 Geological Series
OTHER SOURCES:	Landforms and Relief Map of Australia 1:5 m; Sheet 9 Atlas of Australian Soils; Vegetation Survey of WA 1:1 m
COMMENTS:	
COMPILER:	GWD'A, Nov 1985

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NAME:	BIRRINDUDU
NUMBER:	364
STYLE:	Depositional/erosional
BASIC FORM:	Sand plains, stony hills and ranges
SOILS:	Red earthy sands, some yellow earthy sands, neutral red earths
SOILS ASSOCIATION:	AB29, My66,98, BA5
DESCRIPTION:	Undulating sand plains and stony hills and ranges.
REGOLITH:	Shallow ironstone-gravelly sands on low gravelly rises, broad shallow drainage floors with calcrete, low to steep hilly country with mesas and buttes capped with pisolitic ironstone or ferruginunised and silicified sandstone and greywacke, lateritised volcanics, sediments and metamorphics
GEOLOGY:	Proterozoic sandstone and volcanics, some granite (Birrindudu Basin and the Granites-Tanami Block)
ELEVATION:	Average 300 m
RELIEF:	30 m
MINOR LANDFORMS:	Low to steep hilly country with mesas and buttes
BOUNDARIES:	Upland, dunefelds, ridges and plateaus
REFERENCES:	
TOPOGRAPHIC MAPS:	Relief Map of Australian 1:5 m
GEOLOGICAL MAPS:	Australia 1:2.5 m and 1:5 m; Cainozoic of the NT 1:2.5 m; 1:250 000 Geological series
OTHER SOURCES:	Australian Relief and Landforms 1:5 m; Sheets 8 & 9 Atlas of Australian Soils
COMMENTS:	
COMPILER:	GWD'A, 28 Nov, 1985

NAME:	WILBRUNGA
NUMBER:	365
STYLE:	Depositional/erosional
BASIC FORM:	Uplands
SOILS:	Red earthy sands, red siliceous sands on dune crests and upper slopes, shallow loams and saline clays in salt lakes
SOILS ASSOCIATION:	AB55,56,53,54,29, My104, BA5, SV10,12
DESCRIPTION:	Broad very gently undulating upland (Tableland) elevated above adjacent dune fields; Dune fields; salt pans
REGOLITH:	Low laterite-capped residuals showing exposure of sedimentary rocks, areas of calcrete of variable extent, plains straddled with salt pans, seasonal lakes, calcrete platforms and fringing dunes; ironstone gravels and ironstone duricrust
GEOLOGY:	Palaeozoic, Proterozoic sedimentary rock, metamorphosed sedimentary and volcanic rocks (the Granites-Tanami and Arunta Blocks)
ELEVATION:	Average 300 m
RELIEF:	30m
MINOR LANDFORMS:	Undulating plains with low rocky ridges and hills, some capped by laterite, stony hills and ranges largely derived from sandstone; aeolian sand dunes
BOUNDARIES:	Area of ridges and plateaus, stony hills and ranges, sand plains
REFERENCES:	
TOPOGRAPHIC MAPS:	Relief Map of Australia 1:5 m
GEOLOGICAL MAPS:	Australia 1:2.5 & 1:5 m; Cainozoic of the NT 1:2.5 m
OTHER SOURCES:	Relief and Landforms 1:5 m; Cainozoic Cover and Weathering 1:10 m; Sheet 10NW Atlas of Australian Soils; Australian Major Structural Domains
COMMENTS:	
COMPILER:	GWD'A, DLG, JAn 1986

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NAME:	BEAGLE
NUMBER:	366
STYLE:	Erosional
BASIC FORM:	Sandplain
SOILS:	Red sands (Uc5.2, Uc2.1)
SOILS ASSOCIATION:	AB21,26
DESCRIPTION:	Broadly domed sandplain, with little active drainage, despite moderately high seasonal rainfall. Pindan vegetation
REGOLITH:	Deep, red residual sand; minor alluvium and ferruginous duricrust
GEOLOGY:	Cretaceous sediments of the Canning Basin, overlain by duricrust and residual sand
ELEVATION:	5 - 250
RELIEF:	Low
MINOR LANDFORMS:	Dissected in central west by ephemeral streams. Minor coastal plain
BOUNDARIES:	Essentially geological
REFERENCES:	
TOPOGRAPHIC MAPS:	Broome 1:1m
GEOLOGICAL MAPS:	Canning Basin 1:1m
OTHER SOURCES:	CSIRO Land Research Series No 9
COMMENTS:	Minor heavy minerals in coastal sands
COMPILER:	DLG, Nov 1985

NAME: MELLIGO
NUMBER: 367
STYLE: Erosional
BASIC FORM: Low tableland
SOILS: Red earths (Gn2.12), sandy red duplex soils (Dr5.32)
SOILS ASSOCIATION: My60
DESCRIPTION: Low tableland or plain, with numerous rock outcrops
REGOLITH: Minor only (soils, colluvium, alluvium etc)
GEOLOGY: Cretaceous Melligo Sandstone of the Canning Basin. Sandstone is silicified (opaline silica), but this is probably of diagenetic rather than surficial origin
ELEVATION: 0 - 40
RELIEF: Moderate - low
MINOR LANDFORMS: Coastal plains
BOUNDARIES: Limit of outcrop area of Melligo Sandstone in the Dampier Peninsula
REFERENCES:
TOPOGRAPHIC MAPS: Broome 1:1m
GEOLOGICAL MAPS: Canning Basin 1:1m, Yampi 1:250 000
OTHER SOURCES: CSIRO Land Research Series No 9
COMMENTS:
COMPILER: DLG, Nov 1985

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NAME: JOWLAENGA
NUMBER: 368
STYLE: Erosional
BASIC FORM: Plain
SOILS: Red earths (Gn2.12)
SOILS ASSOCIATION: My61
DESCRIPTION: Residual sandplain, with rocky mesas and active drainage
REGOLITH: Residual sand, some aeolian sand
GEOLOGY: Cretaceous sediments of the Canning Basin, overlain by Cainozoic sand
ELEVATION: 5 - 140
RELIEF: Low - moderate
MINOR LANDFORMS: Poorly developed aeolian seif dunes
BOUNDARIES: From geology and soils data
REFERENCES:
TOPOGRAPHIC MAPS: Broome 1:1m
GEOLOGICAL MAPS: Canning Basin 1:1m
OTHER SOURCES: Atlas of Australian Soils
COMMENTS:
COMPILER: DLG, Nov 1985

NAME: DERBY
NUMBER: 369
STYLE: Depositional
BASIC FORM: Coastal plain
SOILS: Grey clays (Uf1.41)
SOILS ASSOCIATION: JW1
DESCRIPTION: Broad coastal plain with intertidal and supratidal mudflats, and mangrove swamps
REGOLITH: Coastal muds
GEOLOGY: Mesozoic sediments of the Canning Basin, overlain by Cainozoic units
ELEVATION: 0 - ?10
RELIEF: Very low
MINOR LANDFORMS: Beach ridges
BOUNDARIES: Geological: edge of the area of coastal sediment
REFERENCES: Semeniuk (1980)
TOPOGRAPHIC MAPS: Broome 1:1m
GEOLOGICAL MAPS: Canning Basin 1:1m; Derby 1:250 000
OTHER SOURCES: Atlas of Australian Soils, CSIRO Land Research Series No 9
COMMENTS:
COMPILER: DLG, Dec 1985

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NAME: ELLENDALE
NUMBER: 370
STYLE: Erosional/depositional
BASIC FORM: Plain
SOILS: Red earths (Gn2.12), sands (Uc5.21), duplex soils (Dy2.42)
SOILS ASSOCIATION: My58, Ab21,24,26, Sk19
DESCRIPTION: Plain of residual and aeolian sand with numerous low breakaways and ridges. Weakly developed longitudinal sand dunes
REGOLITH: Residual and aeolian sand, ferruginous duricrust, minor alluvium
GEOLOGY: Permian and Triassic sediments of the Canning Basin, overlain by ferruginous duricrust and sand.
ELEVATION: 5 - 160
RELIEF: Low - moderate
MINOR LANDFORMS:
BOUNDARIES: From geological and soils data. Has different soils from the similar Nerrima unit
REFERENCES:
TOPOGRAPHIC MAPS:
GEOLOGICAL MAPS: Canning Basin 1:1m
OTHER SOURCES: Atlas of Australian Soils, CSIRO Land Research Series No 9
COMMENTS:
COMPILER: DLG, Nov 1985

NAME: MEDA
NUMBER: 371
STYLE: Depositional
BASIC FORM: Alluvial plain
SOILS: Grey cracking clays (Ug5.2)
SOILS ASSOCIATION: CC47,50
DESCRIPTION: Alluvial 'black soil' plain
REGOLITH: Alluvium, mainly clays
GEOLOGY: Permian and Devonian sediments of the Canning Basin, overlain by Quaternary alluvium
ELEVATION: 0 - ?100
RELIEF: Low - very low
MINOR LANDFORMS: 'Black soil' plains in the east may be residual after limestone rather than alluvial
BOUNDARIES: Limit of 'black soil' floodplains
REFERENCES: Towner (1981)
TOPOGRAPHIC MAPS: Broome 1:1m
GEOLOGICAL MAPS: Canning Basin 1:1m
OTHER SOURCES: Soils Atlas of Australia, CSIRO Land Research Series No 9
COMMENTS:
COMPILER: DLG, Nov 1985

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NAME: OSCAR
NUMBER: 372
STYLE: Erosional
BASIC FORM: Range
SOILS: Shallow calcareous loamy soils (Um5.11), cracking clays (Ug5.2)
SOILS ASSOCIATION: BB12,13, CC47,49
DESCRIPTION: Plateaus and ranges, with broad 'black soil' floored valleys
REGOLITH: Minor only (minor residual and aeolian sands in valleys, soils etc)
GEOLOGY: Exhumed Devonian limestone reef complex
ELEVATION: 40 - 340
RELIEF: Moderate
MINOR LANDFORMS:
BOUNDARIES: Limit of outcrop of Devonian reef complex
REFERENCES: Crowe & Towner (1981)
TOPOGRAPHIC MAPS: Broome 1:1m
GEOLOGICAL MAPS: Canning Basin 1:1m
OTHER SOURCES: Atlas of Australian Soils, CSIRO Land Research Series No 9
COMMENTS:
COMPILER: DLG, Nov 1985

NAME:	FITZROY
NUMBER:	373
STYLE:	Depositional
BASIC FORM:	Alluvial plain
SOILS:	Cracking clays (Ug5.2)
SOILS ASSOCIATION:	CC47,49
DESCRIPTION:	Alluvial plain of Fitzroy River, with numerous 'black soil' areas with gilgai
REGOLITH:	Alluvium, mainly mud. Some Tertiary gravels of ancestral Fitzroy River
GEOLOGY:	Permian sediments of the Canning Basin, overlain by Cainozoic alluvial units
ELEVATION:	0 - 150
RELIEF:	Low - very low
MINOR LANDFORMS:	
BOUNDARIES:	Limit of 'black soil' floodplain
REFERENCES:	Crowe & Towner (1981), Towner (1981)
TOPOGRAPHIC MAPS:	Broome 1:1m
GEOLOGICAL MAPS:	Canning Basin 1:1m
OTHER SOURCES:	Atlas of Australian Soils, CSIRO Land Research Series No9
COMMENTS:	Tertiary gravels may be diamondiferous
COMPILER:	DLG, Nov 1985

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NAME:	GREAT SANDY 1
NUMBER:	374
STYLE:	Depositional
BASIC FORM:	Aeolian sandplain
SOILS:	Red earthy sands (Uc5.21)
SOILS ASSOCIATION:	B28
DESCRIPTION:	Aeolian sandplain with seif dunes. Interdune corridors generally sand floored
REGOLITH:	Aeolian sand; ferruginous duricrust probably present beneath most of area
GEOLOGY:	Sediments of the Canning Basin, capped with duricrust, and overlain by Quaternary aeolian sand
ELEVATION:	5 - ?300
RELIEF:	Low - moderate
MINOR LANDFORMS:	Rocky outcrops, breakaways, low hills, claypans
BOUNDARIES:	From geological, topographic and soils data. Great Sandy 2 unit has large areas devoid of sand between dunes
REFERENCES:	Crowe (1976)
TOPOGRAPHIC MAPS:	Broome 1:1m
GEOLOGICAL MAPS:	Canning Basin 1:1m
OTHER SOURCES:	Atlas of Australian Soils, CSIRO Land Research Series No 9
COMMENTS:	
COMPILER:	DLG, Nov 1985

NAME:	GRANT
NUMBER:	375
STYLE:	Erosional
BASIC FORM:	Range
SOILS:	Shallow stony sands(Uc4), yellow leached earths (Gn2), red earthy sands (Uc5)
SOILS ASSOCIATION:	JJ18, MB1, AB21,27
DESCRIPTION:	Plateaus and hills with broad valleys
REGOLITH:	Minor only (soils; residual and aeolian sand in valleys)
GEOLOGY:	Anticline of Permian sediments of the Canning Basin
ELEVATION:	40 - 340
RELIEF:	Moderate - high
MINOR LANDFORMS:	
BOUNDARIES:	From geology, soils, and topography
REFERENCES:	Towner (1981)
TOPOGRAPHIC MAPS:	Broome 1:1m
GEOLOGICAL MAPS:	Canning Basin 1:1m
OTHER SOURCES:	Atlas of Australian Soils, CSIRO Land Research Series No 9
COMMENTS:	
COMPILER:	DLG, Nov 1985

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NAME:	EDGAR
NUMBER:	376
STYLE:	Erosional
BASIC FORM:	Range
SOILS:	Ironstone gravel with sandy matrix (KS-Uc4.2)
SOILS ASSOCIATION:	JZ3
DESCRIPTION:	'Breakaway range', with steep north-facing scarps at the southern margin, and steep sided mesas with undulating plain between.
REGOLITH:	Ferruginous duricrust, ironstone gravels. Deep weathering profile in mudstones is well exposed. Minor aeolian sand
GEOLOGY:	Mesozoic sediments of the Canning Basin, with duricrust and deep weathering profiles
ELEVATION:	130 - 230
RELIEF:	Moderate - high
MINOR LANDFORMS:	Aeolian seif dunes
BOUNDARIES:	Edge of dissected area
REFERENCES:	
TOPOGRAPHIC MAPS:	Mount Anderson 1:250 000; Broome 1:1m
GEOLOGICAL MAPS:	Mount Anderson 1:250 000; Canning Basin 1:1m
OTHER SOURCES:	Atlas of Australian Soils, CSIRO Land Research Series No 9
COMMENTS:	
COMPILER:	DLG, Nov 1985

NAME:	NITA
NUMBER:	377
STYLE:	Depositional
BASIC FORM:	Sandplain
SOILS:	red earthy sands (Uc5)
SOILS ASSOCIATION:	AB21,22
DESCRIPTION:	Aeolian sandplain with longitudinal sand dunes only weakly developed. Pindan country
REGOLITH:	Aeolian sand, probably underlain through most of the area by ferruginous duricrust
GEOLOGY:	Mesozoic sediments of the Canning Basin, overlain by ferruginous duricrust, and aeolian sand
ELEVATION:	5 - 200
RELIEF:	Low - very low
MINOR LANDFORMS:	Low hills and rocky outcrops
BOUNDARIES:	From soils and geological data. Northern boundary with residual sand of the Beagle unit from geology
REFERENCES:	Gibson (1983)
TOPOGRAPHIC MAPS:	Broome 1:1m
GEOLOGICAL MAPS:	Canning Basin 1:1m
OTHER SOURCES:	Atlas of Australian Soils
COMMENTS:	
COMPILER:	DLG, Nov 1985

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NAME:	EIGHTY MILE BEACH
NUMBER:	378
STYLE:	Depositional;
BASIC FORM:	Coastal plain
SOILS:	Pedal calcareous earths (Gc2.22), saline clays (Uf1.41), calcareous sands (Uc1.11)
SOILS ASSOCIATION:	Lh1, Jw1
DESCRIPTION:	Coastal plain, with intertidal and supratidal mudflats, mangrove swamps, beach ridge complexes, and coastal aeolian dunes
REGOLITH:	Coastal muds and sands, cemented in part. May extend to 20 m below sea level
GEOLOGY:	Mesozoic sediments of the Canning Basin, overlain by Cainozoic coastal sediments
ELEVATION:	0 - 40
RELIEF:	Low, except for moderate relief dunes
MINOR LANDFORMS:	
BOUNDARIES:	From geology and soils data
REFERENCES:	Towner (1982c), Gibson (1983)
TOPOGRAPHIC MAPS:	Broome 1:1m
GEOLOGICAL MAPS:	Canning Basin 1:1m
OTHER SOURCES:	Atlas of Australian soils, CSIRO Land Research Series No 9
COMMENTS:	
COMPILER:	DLG, Nov 1985

NAME:	NERRIMA
NUMBER:	379
STYLE:	Erosional
BASIC FORM:	Plain
SOILS:	Yellow leached earths(Gn2), red and yellow duplex soils (Dr2.42, Dy2.42)
SOILS ASSOCIATION:	MB1, Qd8
DESCRIPTION:	Undulating plain with low hills
REGOLITH:	Ferruginous duricrust, sparse aeolian sand, minor alluvium
GEOLOGY:	Permian and Triassic sediments of the Canning Basin, capped by ferruginous duricrust and sand
ELEVATION:	40 - 300
RELIEF:	Low - moderate
MINOR LANDFORMS:	Occasional low steep ranges
BOUNDARIES:	From geological, soils and topographic data. Has different soils from the similar Ellendale unit
REFERENCES:	
TOPOGRAPHIC MAPS:	Broome 1:1m
GEOLOGICAL MAPS:	Canning Basin 1:1m
OTHER SOURCES:	Atlas of Australian Soils, CSIRO Land Research Series No 9
COMMENTS:	
COMPILER:	DLG, Nov 1985

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NAME:	SAINT GEORGE
NUMBER:	380
STYLE:	Erosional
BASIC FORM:	Range
SOILS:	Shallow stony sands (Uc4)
SOILS ASSOCIATION:	JJ18
DESCRIPTION:	Plateaus and hills with broad valleys
REGOLITH:	Minor only (residual and aeolian sand in valleys; soils etc)
GEOLOGY:	Anticline in Permian sediments of the Canning Basin
ELEVATION:	70 - 330
RELIEF:	High
MINOR LANDFORMS:	
BOUNDARIES:	From geology, soils and topographic data
REFERENCES:	
TOPOGRAPHIC MAPS:	Broome 1:1m; Noonkanbah 1:250 000
GEOLOGICAL MAPS:	Canning Basin 1:1m; Noonkanbah 1:250 000
OTHER SOURCES:	Atlas of Australian Soils, CSIRO Land Research Series No 9
COMMENTS:	
COMPILER:	DLG, Nov 1985

NAME: SALT CREEK
NUMBER: 381
STYLE: Depositional
BASIC FORM: Palaeodrainage channel
SOILS: Grey brown pedal calcareous earths (Gc2.22), red siliceous sands (Uc1.23)
SOILS ASSOCIATION: Lh1, B28,30
DESCRIPTION: Palaeodrainage channel, with numerous small claypans between aeolian dunes
REGOLITH: Alluvial and lacustrine deposits, aeolian sand, calcrete; probably underlain by ferruginous duricrust
GEOLOGY: Sediments of the Canning Basin, overlain by Cainozoic units
ELEVATION: 10 - 220
RELIEF: Low
MINOR LANDFORMS:
BOUNDARIES: From geological and soils data
REFERENCES:
TOPOGRAPHIC MAPS:
GEOLOGICAL MAPS: Canning Basin 1:1m
OTHER SOURCES: Atlas of Australian Soils
COMMENTS: Sediments at a permanent soak on McLarty Hills 1:250 000 sheet reach 7000 years old (K.H. Wyroll, University of W.A., pers. comm.)
COMPILER: DLG, Nov 1985

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NAME: GREAT SANDY 2
NUMBER: 382
STYLE: Depositional
BASIC FORM: Aeolian sandplain
SOILS: Red earthy and siliceous sands, ironstone gravel with red earthy sand matrix
SOILS ASSOCIATION: AB39,40, AY1
DESCRIPTION: Aeolian dunefield, with numerous rock-floored interdune corridors, and low rocky hills and breakaways
REGOLITH: Aeolian sand, ferruginous duricrust
GEOLOGY: Permian and Mesozoic sediments of the Canning Basin, capped by ferruginous duricrust, and overlain by aeolian sand
ELEVATION: 5 - ?300
RELIEF: Low
MINOR LANDFORMS:
BOUNDARIES: Edge of dunefields in east, south and west. Great Sandy 1 unit to the north generally has sand-floored interdune areas
REFERENCES: Crowe (1976), Towner (1982a,b)
TOPOGRAPHIC MAPS: Broome, Oakover, Halls Creek, Lake Mackay 1:1m
GEOLOGICAL MAPS: Canning Basin 1:1m
OTHER SOURCES: Atlas of Australian Soils
COMMENTS:
COMPILER: DLG, Nov 1985

NAME: THORNTON
NUMBER: 383
STYLE: Erosional
BASIC FORM: Hills
SOILS: Red earths (Gn2.12), red earthy sands (Uc5.21)
SOILS ASSOCIATION: My98
DESCRIPTION: Low to steep hills and mesas, with extensive valley plains
REGOLITH: Deeply weathered bedrock, aeolian sand; ferruginous duricrust caps may hills
GEOLOGY: Sediments of the Canning Basin, overlain by duricrust and sand
ELEVATION: 250 - ?500
RELIEF: Moderate
MINOR LANDFORMS: Aeolian sand dunes
BOUNDARIES: From geology and soils data
REFERENCES:
TOPOGRAPHIC MAPS:
GEOLOGICAL MAPS: Canning Basin 1:1m
OTHER SOURCES: Atlas of Australian Soils
COMMENTS:
COMPILER: DLG, Nov 1985

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NAME: LAKE GREGORY
NUMBER: 384
STYLE: Depositional
BASIC FORM: Salt 'lake'
SOILS: Cracking clays (Ug5)
SOILS ASSOCIATION: CC54
DESCRIPTION: Salt 'lake' and alluvial valley
REGOLITH: Alluvial and lacustrine clay and evaporites; some residual and aeolian sand
GEOLOGY: Permian sediments of the Canning Basin, overlain by Cainozoic alluvium and lacustrine sediments
ELEVATION: 270
RELIEF: Low - very low
MINOR LANDFORMS: Aeolian sand dunes
BOUNDARIES: Limit of alluvium etc in the Gregory salt lake and its feeder creeks
REFERENCES:
TOPOGRAPHIC MAPS: Halls Creek 1:1m
GEOLOGICAL MAPS: Canning Basin 1:1m
OTHER SOURCES: Atlas of Australian Soils
COMMENTS:
COMPILER: DLG, Nov 1985

NAME:	RADI
NUMBER:	385
STYLE:	Depositional/erosional
BASIC FORM:	Sandplain
SOILS:	Red, earthy, siliceous and shallow sands (Uc5, Uc1)
SOILS ASSOCIATION:	AB21,22
DESCRIPTION:	Aeolian sheet sandplain, with numerous small rocky hills
REGOLITH:	Aeolian sand; ferruginous duricrust, developed especially over mudstones
GEOLOGY:	Mesozoic sediments of the Canning Basin, overlain by duricrust and sand
ELEVATION:	5 - 260
RELIEF:	Low - moderate
MINOR LANDFORMS:	Longitudinal sand dunes
BOUNDARIES:	From geological, soils, and topographic data
REFERENCES:	Towner (1982c)
TOPOGRAPHIC MAPS:	Broome, Oakover River 1:1m
GEOLOGICAL MAPS:	Port Hedland, Yarrie 1:250 000; Canning Basin 1:1m
OTHER SOURCES:	Atlas of Australian Soils
COMMENTS:	
COMPILER:	DLG, Nov 1985

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NAME:	PERCIVAL
NUMBER:	386
STYLE:	Depositional
BASIC FORM:	Palaeodrainage
SOILS:	Calcareous loams (Um1), red earths, siliceous sands (Uc1.23), red earthy sands (Uc5.21)
SOILS ASSOCIATION:	SV9, BB17, AB39,40
DESCRIPTION:	Palaeodrainage valley floored with playa lakes; areas of calcrete (kunkar); residual sand in places
REGOLITH:	Playa lake sediments, calcrete, residual sand. Recent alluvium arround Rudall River in the far west. Probably underlain by ferruginous duricrust. Minor aeolian sand
GEOLOGY:	Mainly Permian and Mesozoic sediments of the Canning Basin, overlain by Cainozoic units
ELEVATION:	240 - 350
RELIEF:	Low
MINOR LANDFORMS:	Longitudinal sand dunes
BOUNDARIES:	Edge of area of playas, calcrete, and residual sand; from geology and soils data
REFERENCES:	
TOPOGRAPHIC MAPS:	
GEOLOGICAL MAPS:	Canning Basin 1:1m
OTHER SOURCES:	Atlas of Australian Soils
COMMENTS:	
COMPILER:	DLG, Nov 1985

NAME:	BROADHURST
NUMBER:	387
STYLE:	Erosional
BASIC FORM:	Ranges and plains
SOILS:	Extensive areas of bare rock, stony earthy loams (Um5.51)
SOILS ASSOCIATION:	Fa31,32
DESCRIPTION:	Hills and ranges with flanking plains
REGOLITH:	Minor only (stony soils, colluvium, alluvium, aeolian sand etc)
GEOLOGY:	Proterozoic metamorphics and granite of the Paterson Province
ELEVATION:	250 - ?500
RELIEF:	Low - high
MINOR LANDFORMS:	Longitudinal sand dunes
BOUNDARIES:	Low relief units to the north, east and west; more rugged Bamboo Springs unit to the west
REFERENCES:	
TOPOGRAPHIC MAPS:	1:5 m Relief Map of Australia
GEOLOGICAL MAPS:	Western Australia 1:2.5 m; Australia 1:2.5 m and 1:5 m; various 1:250 000
OTHER SOURCES:	Atlas of Australian Soils; 1:1 m Vegetation Survey of WA; 1:5 m Landforms and Relief Map of Australia
COMMENTS:	
COMPILER:	DLG, GWD'A, Dec 1985

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NAME:	OAKOVER
NUMBER:	388
STYLE:	Depositional/erosional
BASIC FORM:	Broad valley
SOILS:	Earthy clays (Uf6.71), shallow loams (Um5.11), red earths (Gn2.12)
SOILS ASSOCIATION:	Ja3, BB11
DESCRIPTION:	Broad valley with low mesas and hills
REGOLITH:	Tertiary calcrete and opaline silica (Oakover Formation), alluvium
GEOLOGY:	Precambrian metamorphics, overlain by Permian sediments of the Canning Basin, Tertiary calcrete and Quaternary alluvium
ELEVATION:	90 - ?300
RELIEF:	Moderate - low
MINOR LANDFORMS:	
BOUNDARIES:	Area without outcrop of Precambrian rocks. Dunefields to the north
REFERENCES:	
TOPOGRAPHIC MAPS:	Oakover River 1:1m
GEOLOGICAL MAPS:	Canning Basin 1:1m; Yarrie, Nullagine 1:250 000
OTHER SOURCES:	Atlas of Australian Soils
COMMENTS:	
COMPILER:	DLG, Nov 1985

NAME: DE GREY
NUMBER: 389
STYLE: Depositional
BASIC FORM: Floodplain
SOILS: Red duplex soils (Dr2), red earthy sands (Uc5.21)
SOILS ASSOCIATION: Oc40,61, AB19
DESCRIPTION: Alluvial floodplains, and pediments
REGOLITH: Sandy alluvium, mostly deposited by prior streams
GEOLOGY: Precambrian granites and greenstones overlain by Cainozoic alluvium
ELEVATION: 5 - 120
RELIEF: Low
MINOR LANDFORMS: Hills, longitudinal dunefields
BOUNDARIES: Geological - limit of alluvial and dunefield area
REFERENCES: Hickman & Gibson (1982)
TOPOGRAPHIC MAPS:
GEOLOGICAL MAPS: Port Hedland 1:250 000, Pilbara Block 1:500 000
OTHER SOURCES: Atlas of Australian Soils
COMMENTS: Includes the delta of the De Grey River
COMPILER: DLG, Nov 1985

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NAME: MOOLYELLA
NUMBER: 390
STYLE: Erosional
BASIC FORM: Undulating plains
SOILS: Earthy loams (Um5.51), red earths (Gn2.1), duplex soils (Dr2)
SOILS ASSOCIATION: Fa12, My54, Oc62,63
DESCRIPTION: Gently undulating plain with low granite tors and mesas, and extensive pediments
REGOLITH: Residual sand from deeply weathered granite
GEOLOGY: Archaean granite of the Pilbara Block
ELEVATION: 70 - 300
RELIEF: Low - moderate
MINOR LANDFORMS: Steep rugged ranges
BOUNDARIES: Surrounded by the more rugged Bamboo Springs unit, and the depositional De Grey unit
REFERENCES:
TOPOGRAPHIC MAPS: Australia 1:5 m Relief
GEOLOGICAL MAPS: Pilbara Block 1:500 000, Australia 1:2.5 and 1:5 m, various 1:250 000
OTHER SOURCES: Atlas of Australian Soils; 1:1 m Vegetation Survey of WA; 1:5 m Landforms and Relief of Australia
COMMENTS:
COMPILER: DLG, GWD'A, Dec 1985

NAME:	BAMBOO SPRINGS
NUMBER:	391
STYLE:	Erosional
BASIC FORM:	Steep Ranges
SOILS:	Brown loams (Um6.23), duplex soils (Dr2.13), shallow stony earthy loams (Um5.51)
SOILS ASSOCIATION:	Gf1, Oa11, Fa28,29,30
DESCRIPTION:	Rugged ranges, some narrow valley plains, high undulating areas
REGOLITH:	Minor only (colluvium, alluvium, stony soils etc)
GEOLOGY:	Precambrian metamorphics and sediments (Pilbara Block and Hamersley Basin)
ELEVATION:	150 - 420
RELIEF:	Moderate - very high
MINOR LANDFORMS:	
BOUNDARIES:	Fortescue valley to the south, lower less rugged units to the north and east
REFERENCES:	
TOPOGRAPHIC MAPS:	Hamersley Range, Oakover River 1:1 m; 1:5 m Relief Map of Austral
GEOLOGICAL MAPS:	Pilbara Block 1:500 000; Australia 1:2.5 m and 1:5 m; 1:250 000 series
OTHER SOURCES:	Atlas of Australian Soils; 1:1 m Vegetation Survey of WA; 1:5 m Landforms and Relief of Australia
COMMENTS:	
COMPILER:	DLG, GWD'A, Dec 1985

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NAME:	ROEBOURNE
NUMBER:	392
STYLE:	Depositional
BASIC FORM:	Alluvial plain
SOILS:	Cracking clays (Ug5.38), duplex soils (Dr2.33), clays (Uf6.71), loams (Um1)
SOILS ASSOCIATION:	MM17, SV8
DESCRIPTION:	Alluvial plains, some hills
REGOLITH:	Fine alluvium
GEOLOGY:	Precambrian rocks of the PIlbara Block, overlain by Cainozoic alluvium
ELEVATION:	0 - ?150
RELIEF:	Low
MINOR LANDFORMS:	Coastal saline plains
BOUNDARIES:	Margin of alluvial plain. Mapped separately from the De Grey unit on the basis of finer sediment and clay soils in the Roebourne unit
REFERENCES:	
TOPOGRAPHIC MAPS:	Hamersley Range 1:1 m
GEOLOGICAL MAPS:	Western Australia 1:2.5 m, Pilbara Block 1:500 000
OTHER SOURCES:	Atlas of Australian Soils
COMMENTS:	
COMPILER:	DLG, Dec 1985

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REGOLITH TERRAIN MAP OF AUSTRALIA

1986

SCALE 1 : 5 000 000

0 100 200 300 400 500 Kilometres

SIMPLE CONIC PROJECTION WITH TWO STANDARD PARALLELS (18°S AND 36°S)

Published by the Bureau of Mineral Resources, Geology and Geophysics, Department of Resources and Energy. Issued under the authority of the Minister for Resources and Energy. Base map supplied by the Division of National Mapping, Department of Resources and Energy.

Compiled 1983 – 1986 by M.A.Craig, G.W.D'Addario, D.L.Gibson, C.D.Ollier, G. Taylor, BMR, from published and unpublished information by BMR, CSIRO, University of Western Australia, and from remote sensing imagery (NOAH & NIMBUS)

Edited by G.W. D'Addario
Design and drafting by Cartography Section, BMR
Drawn by J.F. Stirzaker
Printed by Watson, Ferguson & Co. Brisbane

This map is to accompany Record 1986/27, The Regolith Terrain Map of Australia 1 : 5 000 000. Numbers on the map refer to regolith terrain units which are described fully in the Record.

REGOLITH TERRAIN MAP OF AUSTRALIA
SCALE 1 : 5 000 000
1986