

## ***Appendix I - Definition of Soil Terms***

**AMOUNTS:** As used here, with reference to soil inclusions, the different terms and their percentages are as follows: occasional (.1) – trace (1 – 3 ) – slight – ( 3-10) – light (10-30) – moderate (30-70) – heavy (.70)

**BLACK SOILS:** The local term for the grey clay soils.

**BLEACHED:** Describes a soil horizon which has become pale in colour owing to leaching.

**BOUNDARY:** When used in describing soil profiles, it defines the nature of the change from one soil horizon to the one below. The width (or thickness) of the boundary may be described as sharp, clear, gradual or diffuse, while the shape may be wavy or irregular. Boundaries also separate mapping units.

**COLOUR:** Soil colours, besides being described in common terms such as brown, red-brown, etc, may be defined in terms of the Munsell notation by matching the soil against colour charts, e.g., 2.5 YR 5/8 denoting, in order, hue, value and chroma, defines one particular soil colour in the red-brown range. The terms written in this report refer to the air dry soils, while the Munsell notation given are for soils in the air-dry and moist states indicated with the letters 'd' and 'm' respectively.

**CONSISTENCE:** Comprises the attributes of soil material that are expressed by the degree and kind of cohesion and adhesion or by the resistance to deformation or rupture. It is markedly affected by the moisture state of the soil. Consistence has been recorded in this report at three moisture contents: dry, moist and wet. Terms used for consistence when dry are: soft and hard; when moist: friable; and when wet; plastic and sticky. The description has been further qualified by the use of the words 'none', 'slightly', 'moderately', 'very' and 'extremely'.

**CRACKING SOILS:** The term refers to the seasonal or periodic characteristic of those clay soils which develop and exhibit, during a dry season or period, cracks as wide as or wider than 6 mm and at least 30 cm deep. The frequency of cracking should be at least one crack per square metre. All such cracks may not be evident at the soil surface where this is massive.

**DUPLEX SOIL:** The soil profile showing a marked difference in texture between the surface and subsoil horizons. Texture contrast must be at least one and a half texture groups between A and B horizons (Northcote, 1971).

**FERRUGINOUS CONCRETIONS:** More or less rounded nodules of variable size and composed mainly of iron oxide.

**GILGAI:** An uneven surface manifestation of puffs and depressions often referred to as crabholes.

**GRAVEL:** Particles between 80 and 2 mm in equivalent diameter

**GREAT SOIL GROUP:** Refers to the soil classification system as described in "A Handbook of Australian Soils" by Stace et al., 1968. Each soil type in this survey has been classified using this system.

**GYPSUM:** Hydrated calcium sulphate.

**HARD PANS:** They are the hardened and/or cemented horizons in or below the soil profile.

**HARD SETTING:** A surface soil is considered to be hard setting when it becomes hard and apparently apedal on periodic drying out.

**LIME:** Calcium carbonate either finely divided or in concretions (hard nodules).

**MINOR SOIL TYPE:** A soil type which, although recorded in the survey, cannot be mapped at the scale used.

**MORPHOLOGY:** the physical constitution of the various horizons and their arrangement in the soil profile.

**MOTTLED, MOTTLING:** These terms refer to soil horizons in which two or more colours are present. The soil may differ in colour either within peds or aggregates, or between them.

They do not refer to stains or coloured deposits on ped faces or the linings of cavities.

Diffusely mottled implies that neighbouring colours are only slightly different.

Moderately mottled means that the colours are evidently different, but not strongly contrasting.

Strongly mottled indicates the presence of markedly contrasting colours.

**PED:** An individual natural soil aggregate.

**PRINCIPAL PROFILE FORM ( P.P.F.):** Represents the complete concept and character of profile form and is the end point of the present factual key classification (by Northcote).

**RED SOILS:** The local term for soils with colours from red to greyish brown, especially in the top parts of profile, irrespective of any other differences.

**ROUGH-FACED PEDS:** Peds are characterised by the porous and general floc condition of ped faces. Individual peds may not be very easy to identify. The peds themselves are relatively porous (see also soil fabric).

**SELF-MULCHING:** Self-mulching is that condition of the surface soil, notably of clays, in which a high degree of pedality is exhibited with the peds falling apart, naturally, as the soil dries to form a loose surface mulch. In cultivated soils, ploughing when wet may appear to destroy the surface mulch which, however, will reform upon drying.

**SMOOTH-FACED PEDS:** Peds are characterised by the smooth textured or lac condition of the ped faces, which have variable lustre or shininess. Individual peds are easily identified. These peds are dense in comparison with rough faced peds (see also soil fabric).

**SOIL FABRIC:** Describes the appearance of the soil material (under 10X hand lens). Differences in fabric are associated with the presence or absence of peds, and the lustre of the ped surfaces and the presence, size and arrangement of pores (voids) in the soil mass. Terms used in this report are: rough and smooth.

**SOIL HORIZON:** A layer of soil, more or less parallel to the land surface, similar throughout and recognisably different from the material above and below. The horizon may be distinguished by differences in one or more of the following characteristics: colour, texture, structure, consistence, mottling, organic matter content and the presence of visible products of weathering and leaching such as calcium carbonate, gypsum, iron oxide and ferruginous concretions. The following horizons in the soil profile may be recognised:

**SURFACE OR A HORIZON:** the surface layer of the soil in which organic matter has accumulated and which may be partly leached of clay and soluble material. It may be divided into two or more sub-horizons as follows:

**A1 HORIZON:** The surface soil more or less darkened by organic matter – a zone of maximum biological activity.

**A2 HORIZON:** A sub surface layer lower in organic matter than the A 1 and, in consequence, usually lighter in colour. It is the zone of maximum leaching.

**SUBSOIL OR B HORIZON:** situated below the surface or A horizon, and is usually heavier in texture than that horizon. The b horizon represents the zone of accumulation of clay and other materials including calcium carbonate and iron oxides.

**SOIL PROFILE:** This is the vertical section of a soil exposing the sequence of horizons from the surface to an arbitrary depth, in this survey, to at least 1.2 m.

**SOIL REACTION TREND:** Indicates the general direction of the pH changes down the solum, e.g., alkaline trend – the surface soil has a pH value higher than 5.0 and the deep subsoil has a value higher than 8.0

**SOIL SERIES:** A group of soils formed from the same parent material and having horizons similar in distinguishing characteristics and arrangement in the soil profile, except for the texture of the surface soil. The series name is taken from the locality where it was first described. A series may consist of one or more soil types.

**SOIL TYPE:** A group of soils with the same general profile characteristics, including the texture of the surface soil. Individually and grouped in complexes, it is the basic unit of soil mapping in this survey.

**SOLUM:** The solum consists of either the A + B horizons (the AB profile) or the A horizon alone when no B horizon is present. The solum is that portion of the soil profile influenced by current soil processes, including the biotic. The solum may also show some evidence of past cycles of soil formation.

**STRUCTURE:** Describes the way in which the primary soil particles are arranged into soil aggregates (peds). The descriptive terms used here are: crumb, angular blocky, sub-angular blocky and prismatic. The size or class of the aggregates may be fine, medium or coarse, while the grade (pedality) may be weak, moderate or strong.

**TEXTURE:** Soil texture is a measure of the behaviour of a small handful of soil when moistened (approximately to field moisture capacity), kneaded into a ball and then pressed out between thumb and forefinger. It is strongly influenced by clay content and is affected by other properties including clay mineral type, organic matter, oxides, carbonates and exchangeable cations. Texture is described in terms of texture grades, examples of which are sand, sandy loam, sandy clay loam, light clay, medium clay and heavy clay.

**UNAGGREGATED MASSIVE** = structureless, i.e., , ‘apedal’.