

APPENDIX IV - SOIL PROFILE DESCRIPTIONS

The standards used for soil properties are those of the U.S.D.A. (1951) with supplement 1962, Northcote (1979) and, in the case of sodicity, Northcote and Skene (1972).

Abbreviated field descriptions of soil profiles representing the main soil types in the survey are presented below. The maps used are those of the 1:100 000 topographic series. The Northcote code for the classification of each soil is shown. This has been extended by the use of three numbers referring in order to texture group, structure grade and depth of A horizon (Charman 1978).

Profile 915 - Grey calcareous sodic uniform clay soil, coarsely structured. Ug 5.21 - 5/3/000. (Dunolly 7624: map ref. 258162)

A 0-10cm brown (10YR4/3) clay, hard accumulations of iron oxide (1 %) and lime, strong subangular blocky structure.
B₁ 10-60cm brown (10YR 5/3) clay, soft accumulations of lime (50%), strong angular blocky structure.
B₂ 60-120cm light yellowish brown (10YR 6/4) clay, hard accumulations of iron and manganese oxides (5%), moderate angular blocky structure.

Profile 929 - Reddish brown calcareous sodic uniform clay soil. Ug 6.10 - 5/2/010 (Charlton 7525: map ref. 246904)

A 0-10cm dark reddish brown (5YR 3/2) light clay, moderate subangular blocky structure.
B₂₁ 10-30cm dark reddish brown (5YR 3/2) sandy clay, moderate subangular blocky structure.
B₂₂ 30-70cm dark reddish brown (5YR 3/2) light medium clay, strong angular blocky structure.
B₂₃ 70-161cm yellowish red (5YR 4/6) medium clay, soft accumulations of lime, weak angular blocky structure.

Profile 931 - Reddish brown sodic gradational soil. Gn 4.11 - 3/0/012 (St Arnaud 7524: map ref. 036470)

A 0-12cm very dark grey (5YR 3/1) loam, apedal.
B₁ 12-31cm reddish brown (5YR 4/4) fine sandy clay loam, apedal, hard.
B₂ 31-80cm brown (10YR 4/3) light clay, moderate sub-angular blocky structure.

Profile 907 - Mottled reddish yellow duplex soil, finely structured. Dy 3.41 - 1/0/030 (Beaufort 7523: map ref. 188866)

A₁ 0-4cm very dark greyish brown (10Y11 3/2) sandy loam, weak subangular blocky structure.
A₂ 4-30cm brown (7.5YR 5/4) loamy sand, apedal.
B₁ 36-68cm reddish yellow (7.5YR 6/8) light clay, strong angular blocky structure, common distinct red mottles, hard accumulations of iron oxide (1 %).
B₂ 68-120cm weak red (10YR 4/4) light clay, strong angular blocky structure, abundant medium prominent yellow mottles, common fine distinct grey mottles, stains of organic matter.
B₃ 120-180cm dark red (10YR 3/6) medium clay, strong angular blocky structure, abundant medium prominent grey mottles, stains of organic matter.

Profile 924 - Mottled yellow sodic duplex soil. Dy 3.41 - 2/1/038 (Dunolly 7624: map ref 363494)

A₁ 0-6cm very dark greyish brown (10YR 3/2) coarse sandy loam, weak subangular blocky structure.
A₂ 6-38cm yellowish brown (10YR 5/4) coarse sand, bleached, apedal.
B₁ 38-84cm brown (10YR 5/3) light medium clay, abundant red mottles, strong angular blocky structure.
B₂ 84-107cm pale brown (10YR 6/3) sandy clay, common pale brown mottles, moderate angular blocky structure.

Profile 901 - Shallow stony red duplex soil. Dr2.41 -3/1/012 (Beaufort 7523 :map ref. 109954)

A₁ 0-10cm dark brown (7.5YR 3/2) loam, weak subangular blocky structure.
A₂ 10-22cm brown (7.5YR 5/4) clay loam, apedal, hard.
B₁ 22-72cm red (2.5YR 4/6) light clay, strong angular blocky structure.
B₂ 72-90cm reddish yellow (7.5YR 6/8) silty clay, apedal.

Profile 917 - Red calcareous sodic duplex soil. Dr 3.33 - 3/1/005 (St Arnaud 7524: map ref. 21008 1)

A 0-5cm very dark greyish brown (10YR 3/2) loam, weak subangular blocky structure, nodules of iron oxide (1 %).
B₁ 5-23cm brown (7.5YR 4/4) light clay, moderate angular blocky structure, stains of organic matter and iron oxide (20%).
B₂ 23-67cm strong brown (7.5YR 5/6) light medium clay, weak angular blocky structure, hard accumulations of iron oxide (2%).

Profile 930 - Red calcareous sodic duplex soil. Dr 2.13 - 1/0/20 (Charlton 7525 : map ref. 064811)

A 0-20cm dark reddish brown (5YR 3/3) loamy sand. apedal, soft.
B₁ 20-30cm dark red (2.5 YR 3/6) medium clay, moderate sub-angular blocky structure, stains of organic matter (5%).
B₂₁ 30-144cm red (2.5YR 4/6) light medium clay, moderate sub-angular blocky structure, abundant coarse prominent pale mottles, soft accumulations of lime (50%) also iron oxide.

Profile 918 - Yellowish brown calcareous sodic duplex soil. Dy 3.43 - 3/1/010 (St Arnaud 7524: map ref. 214115)

- A 0-10cm greyish brown (10YR 5/2) silty loam, apedal, stains of iron oxide (1 %).
B₁ 10-22cm light brownish grey (10YR 6/2) light clay, weak subangular blocky structure, common fine faint yellowish brown mottles, stains of iron oxide.
B₂ 22-85cm brown (10YR 4/3) medium clay, moderate angular blocky structure, soft accumulations of lime (5%).

Profile 905 - Yellow sodic duplex soil. Dy 3.42 2/1/045 (Beaufort 7523 : map ref. 108726)

- A₁ 0-5cm very dark brown (10YR 2/2) coarse sandy loam, weak crumb structure.
A₂ 5-39cm dark brown (10YR 3/3) loamy coarse sand, bleached, apedal.
A₃ 39-45cm pale brown (10YR 6/3) gravelly coarse sand, apedal.
B₂ 45-88cm strong brown (7.5YR 5/6) medium clay, moderate angular blocky structure.

Profile 909 - Red sodic duplex soil. Dr 3.42 2/1/026 (Beaufort 7523 : map ref. 165938)

- A₁ 0-10cm dark yellowish brown (10YR 4/4) fine sandy loam, weak subangular blocky structure.
A₂ 10-26cm brown (7.5YR 5/4) loamy fine sand, apedal.
B₁ 26-78cm red (2.5YR 4/6) light medium clay, strong angular blocky structure, common fine faint yellowish brown mottles, few fine distinct red mottles, stains of organic matter.
B₂ 78-102cm strong brown (7.5YR 5/8) light clay, weak subangular blocky structure, few fine faint reddish brown mottles, few fine faint yellow mottles, soft accumulations (1%) gypsum and organic matter.

Profile 925 - Brown sodic duplex soil. Db 1.43 2/0/021 (Dunolly 7624: map ref. 343509)

- A₁ 0-7cm dark brown (7.5YR 3/2) fine sandy loam, apedal, hard.
A₂ 7-21cm brown (7.5YR 5/4) loamy fine sand, apedal, hard.
B₁ 21-60cm brown (7.5YR 4/4) medium clay, weak angular blocky structure.
B₂ 60-82cm brown (10YR 4/3) light medium clay, moderate angular blocky structure, common coarse distinct grey mottles, hard accumulations of lime (30%).



Plate 1 – Grey calcareous sodic uniform clay soil, coarsely structured – Profile 915



Plate 2 – Reddish brown calcareous sodic uniform clay soil – Profile 929



Plate 3 – Reddish brown sodic gradational soil – Profile 931



Plate 4 – Mottled reddish yellow duplex soil – Profile 907



Plate 5 – Mottled yellow sodic duplex soil – Profile 924



Plate 6 – Shallow stony red duplex soil – Profile 901



Plate 7 – Red calcareous sodic duplex soil – Profile 917



Plate 8 – Red calcareous sodic duplex soil – Profile 930



Plate 9 – Yellowish brown calcareous sodic soil – Profile 918



Plate 10 – Yellowish sodic duplex soil – Profile 905



Plate 11 – Red sodic duplex soil – Profile 909



Plate 12 – Brown sodic duplex soil – Profile 925