CALCAREOUS CLAY LOAM

General Description: *Loam to clay loam becoming gradually more clayey and calcareous with depth*

Landform: Alluvial fan.

Substrate: Fine grained alluvium with rubbly limestone interbeds.

Vegetation:

Type Site: Site No.: EE206

1:50,000 sheet:	6130-1 (Rudall)	Hundred:	Yadnarie
Annual rainfall:	340 mm	Sampling date:	17/09/01
Landform:	Midslope of an alluvial fan, 2% slope.		
Surface:	Firm with no stones.		

Soil Description:

Depth (cm)	*Description*
0-10	Dark reddish brown friable clay loam with granular structure. Clear to:
10-25	Strong brown highly calcareous clay loam with weak columnar structure. Clear to:
25-35	Strong brown massive very highly calcareous light clay with 20-50% fine carbonate segregations. Gradual to:
35-80	Strong brown very highly calcareous light medium clay with moderate subangular blocky structure. Diffuse to:
80-140	Brown very highly calcareous light medium clay with moderate subangular blocky structure. Clear to:
140-150	Rubbly limestone with clay pockets as for 80-140 cm.

Classification: Epibasic, Regolithic, Hypercalcic Calcarosol; medium, non-gravelly, clay loamy / clayey, deep

Summary of Properties

Drainage: Moderately well drained. The soil is unlikely to remain wet for more than a few days to a week following heavy or prolonged rainfall.

Fertility: Inherent fertility is high, as indicated by the exchangeable cation data. Concentrations of all measured elements are satisfactory. Organic carbon levels are high, as is typical of finer textured calcareous soils.

pH: Alkaline at the surface, strongly alkaline with depth

Rooting depth: 90 cm in the pit, but few roots below 35 cm.

Barriers to root growth:

Physical: There are no apparent physical barriers.

Chemical: High pH / sodicity from 35 cm restricts root growth. Toxic levels of boron are below the potential root zone of cereals.

Water holding capacity: Approximately 70 mm in the potential root zone.

Seedling emergence: Satisfactory provided that the surface does not seal. This is unlikely with the measured levels of calcium and organic carbon.

Workability: The friable surface soil is easily worked, although it may become too wet for short periods following heavy rainfall.

Erosion Potential

Water: Moderately low to low.

Wind: Low.

Laboratory Data

Depth cm	pH H_2O	pH $CaCl_2$	CO_3 %	EC 1:5 dS/m	Org.C %	NO_3 mg/kg	Avail. P mg/kg	Avail. K mg/kg	SO_4 mg/kg	Boron mg/kg	Trace Elements mg/kg (DTPA)				Sum of cations cmol (+)/kg	Exchangeable Cations cmol(+)/kg				ESP
											Cu	Fe	Zn	Mn		Ca	Mg	Na	K	
0-10	8.3	7.9	nd	0.16	2.09	7	40	944	7.6	3.2	1.22	4.4	0.52	5.04	24.1	17.7	3.70	0.37	2.37	1.5
10-25	8.9	8.5	nd	0.17	0.75	4	7	710	9.0	4.9	2.45	2.0	0.08	2.19	23.5	14.8	6.13	0.87	1.75	3.7
25-35	9.3	8.6	nd	0.26	0.45	4	8	935	12.0	6.3	3.54	3.6	0.10	1.76	23.2	10.1	8.88	1.91	2.37	8.2
35-80	9.5	8.6	nd	0.44	0.26	3	6	662	23.6	11.0	2.74	4.3	0.23	1.38	23.3	8.37	9.18	4.04	1.66	17.4
80-140	9.7	8.9	nd	0.69	0.27	3	5	575	29.0	26.3	2.88	6.5	0.20	1.54	28.7	8.59	8.46	10.2	1.44	35.6

Note: Sum of cations in neutral to alkaline soils is an approximation of cation exchange capacity (a measure of the soil's capacity to store and release major nutrient elements).

ESP (exchangeable sodium percentage) is derived by dividing the exchangeable sodium value by the sum of cations.