RUBBLY CALCAREOUS LOAM

General Description: *Calcareous loam over rubbly carbonate at shallow depth, with a gradual increase in clay and soft carbonate content down the profile*

Landform: Rises.

Substrate: Alluvial clay.

Vegetation: Stipa spp. (spear grass), bullock bush, Eucalyptus oleosa, Casuarina cristata (black oak).

Type Site: Site No.: CM080

1:50,000 sheet:	6830-3 (Lindley)	Hundred:	Beatty
Annual rainfall:	225 mm	Sampling date:	18/11/96
Landform:	Upper slope of gently undulating rise, 1% slope		
Surface:	Firm with 10-20% calcrete stones		

Soil Description:

Depth (cm)	*Description*
0-10	Dark brown very highly calcareous fine sandy loam with weak granular structure, 2-10% nodular carbonate and 2-10 quartzite gravel. Clear to:
10-45	Brown very highly calcareous massive fine sandy loam with more than 50% nodular (rubbly) Class III C carbonate to 300 mm diameter. Clear to:
45-70	Light brown very highly calcareous fine sandy loam with more than 50% nodular carbonate to 20 mm diameter. Clear to:
70-110	Orange and brown very highly calcareous fine sandy clay loam with weak blocky structure and 20-50% nodular carbonate to 20 mm diameter. Gradual to:
110-165	Red, yellowish brown and orange highly calcareous medium clay with blocky structure, 20-50% soft carbonate and 2-10% manganese segregations.

Classification: Hypervescent, Regolithic, Lithocalcic Calcarosol; medium, gravelly, loamy / clay loamy, deep

Summary of Properties

Drainage Rapidly drained - the soil is unlikely to remain wet for more than a few hours following prolonged rain.

Fertility Inherent fertility is moderately low - although exchangeable cation data indicate high nutrient retention characteristics, the high carbonate content to the surface induces deficiencies of a range of nutrient elements.

pH Alkaline at the surface, strongly alkaline with depth.

Rooting depth 165 cm in pit but few roots below 110 cm.

Barriers to root growth

Physical: None, except where nodules are cemented into sheet rock.

Chemical: None, apart from marginal salinity at depth.

Water holding capacity Approximately 70 mm in root zone.

Seedling emergence: Good.

Erosion Potential

Water: Moderately low.

Wind: Moderately low.

Laboratory Data

Depth cm	pH H_2O	pH $CaC1_2$	CO_3 %	EC1:5 dS/m	ECe dS/m	Org.C %	Avail. P mg/kg	Avail. K mg/kg	SO_4-S mg/kg	Boron mg/kg	Trace Elements mg/kg (DTPA)				CEC cmol (+)/kg	Exchangeable Cations cmol(+)/kg				ESP
											Cu	Fe	Mn	Zn		Ca	Mg	Na	K	
Paddock	8.4	7.8	15	0.16	0.64	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
0-10	8.3	7.7	12	0.18	0.75	-	-	-	-	-	-	-	-	-	15.5	13.1	1.4	0.12	1.86	0.8
10-45	8.2	7.9	26	0.67	3.18	-	-	-	-	-	-	-	-	-	13.7	11.4	3.1	0.78	0.84	5.7
45-70	8.6	8.1	39	1.26	5.72	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
70-110	9.2	8.5	41	1.46	7.31	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
110-165	9.0	8.4	19	1.69	7.15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Note: Paddock sample bulked from cores (0-10 cm) taken around the pit.
CEC (cation exchange capacity) is 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 CEC.