

GRADATIONAL SANDY LOAM OVER ROCK

General Description: Red sandy loam becoming more clayey with depth overlying a layer of soft carbonate grading to weathering bedrock

Landform: Low rises

Substrate: Weathering basement rock (gneiss)

Vegetation: Bluebush shrubland
Dominant species:
Maireana astrotricha
Maireana pyramidata



Type Site: Site No.:CU 035
Location: Bindarra Station
Sampling date: 08/02/94

1:50,000 mapsheet: 7033-4
Easting: 467500
Northing: 6450600
Annual rainfall: 195 mm average

Slope of low rise with a firm lichen crust surface and minor quartz gravel. 2% slope.

Soil Description:

Depth (cm)	Description
0-8	Red massive sandy loam with minor quartz gravel. Abrupt to:
8-20	Red sandy clay loam with weak coarse polyhedral structure. Clear to:
20-45	Dark red sandy light clay with moderate coarse polyhedral structure. Gradual to:
45-80	Orange very highly calcareous sandy clay loam with moderate coarse polyhedral structure. Diffuse to:
80-130	Weathering gneiss with 10-20% soft carbonate segregations.



Classification: Sodic, Hypercalcic, Red Dermosol; thin, non-gravelly, loamy / clayey, moderate



Summary of Properties

Drainage: The soil is well drained. The high calcium status indicates that the soil will absorb water readily.

Fertility: The exchangeable cation data indicate that the soil has a moderate plant nutrient storage capacity.

pH: Alkaline at the surface, strongly alkaline with depth.

Rooting depth: 80 cm in pit with very few roots below this depth.

Barriers to root growth:

Physical: There are no physical barriers until bedrock is encountered. If any shallower, basement rock will limit optimal root growth.

Chemical: There are no apparent chemical limitations. Salt and boron levels are very low.

Waterholding capacity: Approximately 100 mm in pit. The sandy surface (low wilting point) will make most of its water available to plants.

Seedling emergence: Good.

Erosion Potential: Erosion potential is moderately low.

Laboratory Data

Depth cm	pH H ₂ O	pH CaCl ₂	CO ₃ %	EC1:5 dS/m	ECe dS/m	Org.C %	Avail. P mg/kg	Avail. K mg/kg	SO ₄ 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	8.5	7.7	0	0.09	0.42	0.4	21	367	-	0.7	0.4	3	6.1	1.5	10.0	6.82	2.00	0.51	0.96	5.0
0-8	9.0	8.2	0.1	0.11	0.65	0.3	16	333	-	0.8	0.3	2	5.1	0.7	7.6	5.49	1.71	0.64	0.86	7.3
8-20	9.0	8.2	0.1	0.09	0.40	0.3	8	418	-	1.1	0.6	2	3.9	0.4	11.3	7.77	2.28	0.55	1.20	4.7
20-45	9.2	8.2	0.1	0.14	0.61	0.2	5	295	-	0.8	1.0	4	2.5	0.3	17.5	11.8	3.06	1.31	1.00	7.6
45-80	9.2	8.2	16.0	0.15	0.44	0.3	10	95	-	0.4	1.0	3	1.1	0.3	15.4	11.4	3.12	1.27	0.44	7.8
80-130	9.3	8.4	8.1	0.10	0.30	0.1	4	42	-	0.3	0.4	2	0.7	0.3	5.5	5.57	1.62	0.68	0.12	8.5

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.

Further information: [DEWNR Soil and Land Program](#)

