HARD SANDY LOAM OVER DISPERSIVE RED CLAY

(Loamy flat soil)

General Description: Hard loamy surface soil overlying a red strongly structured clayey subsoil with soft carbonate at depth

Landform: Depressions and flats

Substrate: Alluvial clay, mantled by

soft carbonate

Vegetation: Bladder saltbush and pearl

bluebush shrubland



Type Site: Site No.: CM070

Description

1:50,000 sheet: 6831-3 Hundred: Out of Hundreds

Annual rainfall: 215 mm Sampling date: 06/10/95

Landform: Flat, 0% slope

Surface: Hard setting with no stones

Soil Description:

Depth (cm)

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0-13	Reddish brown firm massive slightly calcareous light sandy clay loam. Abrupt to:
13-15	Pink (dry) firm massive slightly calcareous light sandy clay loam. Abrupt to:
15-35	Dark reddish brown firm medium clay with strong coarse prismatic structure, breaking to subangular blocky. Abrupt to:

35-65 Reddish brown hard highly calcareous light medium clay with coarse prismatic structure and

10-20% soft carbonate. Gradual to:

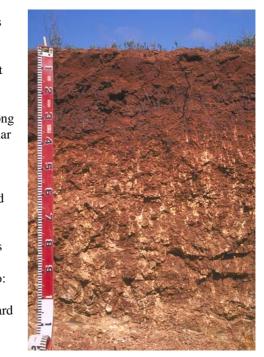
Brown and olive mottled hard highly calcareous

medium clay with strong coarse prismatic structure and 10-20% soft carbonate. Gradual to:

Yellowish brown and light grey mottled very hard

calcareous sandy clay with moderate coarse

blocky structure.



Classification: Calcic, Subnatric, Red Sodosol; medium, non-gravelly, loamy / clayey, deep

Summary of Properties

Drainage Moderately well drained. The sodic and dispersive B horizon clay will not allow free

movement of water, causing a perched water table to develop for a week or so following heavy rain. Runoff into the flat will accentuate the water perching situation.

Fertility Natural fertility is moderately high as indicated by the exchangeable cation data.

pH Alkaline to strongly alkaline throughout.

Rooting depth 105 cm in pit, but few roots below 65 cm.

Barriers to root growth

Physical: Hard dispersive clay subsoil clogs up preventing good root distribution.

Chemical: High boron (from 35 cm) and marginal salinity, pH and sodicity (from 65 cm) affect

root growth in some species.

Water holding capacity Approximately 90 mm in root zone, although not all is available in lower profile. This

is offset by the soil's topographic position - lower slope areas collect additional water

from surrounding higher ground.

Seedling emergence: Fair, due to hard setting, sealing surface.

Erosion Potential

Water: Low due to the flatness of the land.

Wind: Moderately low - pulverizing by stock will create an erosion hazard.

Laboratory Data

Depth cm	pH H ₂ O	pH CaC1 ₂	CO ₃ %	EC1:5 dS/m	ECe dS/m	%	Avail. P mg/kg	K	mg/kg	Boron mg/kg	Trace Elements mg/kg (DTPA)				CEC cmol (+)/kg	Exchangeable Cations cmol(+)/kg				ESP
							mg/kg	mg/kg			Cu	Fe	Mn	Zn	(+)/Kg	Ca	Mg	Na	K	
0-13	8.6	8.1	0.2	0.09	0.38	0.4	5	424	4	1.0	-	-	-	-	9.2	6.15	2.25	0.16	1.05	1.7
13-15	-	-	-	-	1	-	-	-	-	1	1	-	-	-	-		-	-	-	
15-35	9.1	8.3	0.5	0.22	0.79	0.3	<4	434	6	2.3	1	-	-	-	27.3	10.2	12.1	2.94	1.61	10.8
35-65	9.0	8.4	13.5	0.62	3.83	0.2	<4	347	18	6.5	-	-	-	-	21.5	6.66	11.7	3.70	1.22	17.2
65-105	9.0	8.5	13.6	1.30	7.56	0.1	<4	314	128	31.3	-	-	-	-	16.5	4.82	9.36	4.01	0.95	24.3
105-120	8.8	8.5	1.0	1.50	7.37	0.1	<4	227	269	31.4	-	-	-	-	12.8	3.68	6.95	3.30	0.52	25.8

Note: 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.