

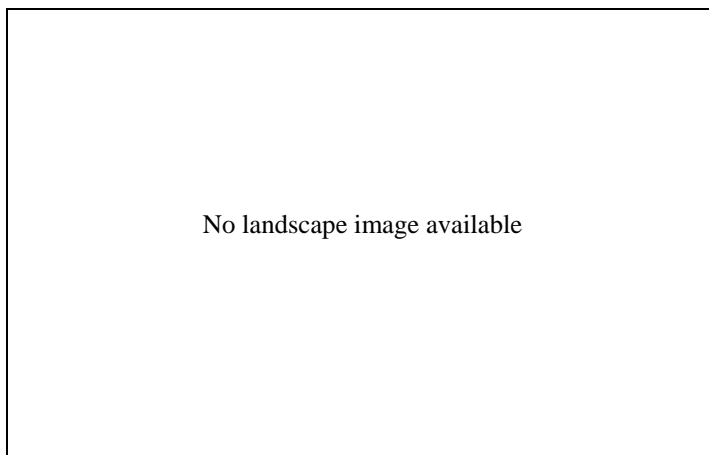
THICK SAND OVER CLAY (Heggaton soil)

General Description: *Thick bleached sand over a sandy clay to clay subsoil, often calcareous with depth*

Landform: Gently undulating plain with sandhills.

Substrate: Tertiary clay.

Vegetation: Mallee - broombush (Euc. incrassata / Mel. uncinata).



Type Site: Site No.: EE136

1:50,000 sheet:	6131-3 (Darke)	Hundred:	Darke
Annual rainfall:	350 mm	Sampling date:	16/08/95
Landform:	Upper slope on rise between sandhills, 6% slope		
Surface:	Loose with no stones.		

Soil Description:

Depth (cm)	Description
0-10	Dark brown soft loamy sand. Clear to:
10-38	Light brown soft sand. Abrupt to:
38-40	Light grey (bleached) soft sand. Abrupt to:
40-70	Light yellowish brown friable highly calcareous sandy clay with weak fine angular blocky structure and 10-20% fine carbonate segregations. Diffuse to:
70-150	Very pale brown friable highly calcareous medium clay with 20-50% carbonate concretions (60-200 mm).



Classification: Supracalcic, Subnatric, Yellow Sodosol; thick, non-gravelly, sandy / clayey, deep

Summary of Properties

Drainage	Moderately well drained. Water may perch on the clayey subsoil for up to a week following heavy or prolonged rainfall.
Fertility	Inherent fertility is low, as indicated by the exchangeable cation data. Low clay and organic matter contents at the surface restrict the capacity of the topsoil to retain nutrients. Regular applications of phosphorus are needed - concentrations at the sampling site are adequate. Zinc, copper and manganese deficiencies may also occur - levels are marginal. Nitrogen concentrations depend on legume component of pastures and cropping history.
pH	Neutral at the surface, strongly alkaline with depth.
Rooting depth	120 cm in pit.
Barriers to root growth	
Physical:	The clayey subsoil reduces root densities to some extent.
Chemical:	High pH from 70 cm causes root growth to diminish.
Water holding capacity	Approximately 120 mm in the root zone.
Seedling emergence:	Satisfactory except in seasons when water repellence is a problem.
Workability:	Loose surface is easily worked.
Erosion Potential	
Water:	Moderate.
Wind:	Moderate.

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 -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	
0-10	7.2	7.0	<1	0.06	0.39	0.6	25	110	7	0.5	0.2	15	2.0	0.6	2.9	2.47	0.57	0.10	0.11	3.4
10-38	8.1	7.3	<1	0.04	0.29	<0.1	4	115	4	0.4	0.4	4	0.3	0.3	1.9	1.66	0.40	0.10	0.10	5.3
38-40	8.4	7.5	<1	0.05	0.43	<0.1	<4	79	6	0.4	0.6	3	0.4	0.2	1.4	1.02	0.36	0.13	0.06	9.3
40-70	9.2	8.4	7	0.18	0.64	0.1	<4	377	8	4.6	0.5	8	0.7	0.3	8.8	5.81	4.30	0.56	0.88	6.4
70-150	9.7	8.6	13	0.33	1.09	0.2	<4	557	9	9.5	0.5	6	0.5	0.3	7.7	2.87	4.93	1.73	1.08	6.1

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