SANDY LOAM OVER BROWN CLAY

(Pedlar soil)

General Description: *Sandy loam over coarsely structured brown clay, calcareous with depth*

Landform: Very gently undulating plain.

Substrate: Tertiary clay.

Vegetation:

Type Site:

Site No.:	EL039	1:50,000 mapsheet:	6029-4 (Yeelanna)
Hundred:	Cummins	Easting:	566410
Section:	61	Northing:	6211050
Sampling date:	20/02/1986	Annual rainfall:	430 mm average

Flat plain. Firm to hard setting surface with no stones.

Soil Description:

Depth (cm)	*Description*
0-10	Very dark greyish brown massive silty loam. Abrupt to:
10-13	Yellowish brown light sandy loam. Sharp to:
13-46	Dark brown hard medium clay with coarse subangular blocky structure. Sharp to:
46-70	Class III C carbonate rubble. Abrupt to:
70-94	Brownish yellow massive very highly calcareous sandy clay with 20-50% carbonate nodules. Clear to:
94-136	Pale yellow massive very highly calcareous sandy clay loam. Clear to:
136-170	Pale yellow massive very highly calcareous light clay.

Classification: Sodic, Lithocalcic, Brown Chromosol; medium, non-gravelly, loamy / clayey, deep

Summary of Properties

Drainage: Moderately well to well drained. Water may perch on top of the clayey subsoil for up to a week or so following heavy or prolonged rainfall.

Fertility: Inherent fertility is moderately low - surface clay content of about 15% provides relatively low nutrient retention capacity. Regular phosphorus applications are needed.

pH: Alkaline throughout.

Rooting depth: 70 cm in pit, but few roots below 46 cm.

Barriers to root growth:

Physical: The coarsely structured dense clayey subsoil prevents uniform and prolific root growth.

Chemical: There are no chemical barriers to root growth.

Waterholding capacity: Approximately 70 mm in the rootzone.

Seedling emergence: Fair to good, depending on the degree of surface sealing and compaction.

Workability: Fair to good.

Erosion Potential:

Water: Low.

Wind: Moderately low.

Laboratory Data

Depth cm	pH H_2O	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	
0-10	8.4	7.7	6	0.18	1.71	-	-	-	-	1.7	-	-	-	-	16.30	-	2.20	0.28	1.80	2
10-13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13-46	8.5	7.8	3	0.15	0.98	-	-	-	-	2.9	-	-	-	-	34.40	-	5.30	0.74	2.10	2
46-70	-	-	57	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-
70-94	8.9	8.0	-	0.58	3.77	-	-	-	-	2.7	-	-	-	-	18.00	-	5.20	2.10	1.20	12
94-136	9.0	8.0	54	0.58	3.77	-	-	-	-	1.4	-	-	-	-	12.90	-	5.00	1.60	0.95	12
136-170	9.3	8.1	59	0.66	4.29	-	-	-	-	4.1	-	-	-	-	16.00	-	9.30	3.10	1.50	19

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.

* Exchangeable calcium (Ca) values not presented due to inappropriate laboratory procedure on very highly calcareous samples.

Further information: DEWNR Soil and Land Program