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 sheet:	6029-4 (Yeelanna)	Hundred:	Cummins
Annual rainfall:	425 mm	Sampling date:	20/02/86
Landform:	Flat plain		
Surface:	Firm to hard setting 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.

Water holding capacity Approximately 70 mm in the root zone.

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 $CaC1_2$	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	
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.