

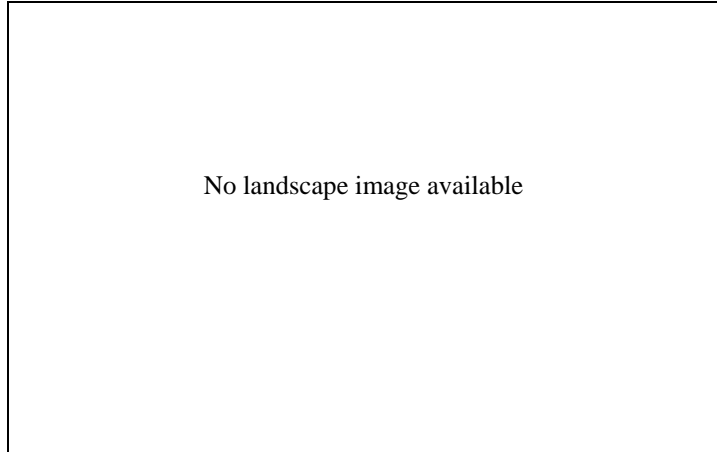
IRONSTONE GRAVELLY SANDY LOAM OVER RED CLAY (Ness soil)

General Description: *Thin ironstone gravelly loamy sand to loam over a red to brown clay*

Landform: Gently undulating rises.

Substrate: Unconsolidated clayey
Tertiary sediments.

Vegetation: Eucalyptus camaldulensis /
Callistemon rugulosus
woodland.



Type Site: Site No.: EL030

1:50,000 sheet: 5929-1 (Kiana)	Hundred: Kiana
Annual rainfall: 485 mm	Sampling date: 03/03/92
Landform: Flat between undulating rises	
Surface: Firm with less than 2% ironstone (60-200 mm)	

Soil Description:

Depth (cm)	Description
0-6	Dark brown friable heavy sandy loam with moderate subangular blocky structure. Abrupt to:
6-10	Orange friable clay loam with weak subangular blocky structure and 20-50% ironstone gravel. Abrupt to:
10-53	Red hard light medium clay with strong angular blocky structure and 10-20% ferruginous concretions. Clear to:
53-80	Yellowish brown very hard medium clay with 20-50% ferruginous concretions. Gradual to:
80-145	Yellowish brown very hard medium clay with 10-20% ferruginous concretions.



Classification: Ferric-Sodic, Eutrophic, Red Chromosol; medium, non-gravelly, loamy / clayey, deep

Summary of Properties

Drainage	Well drained. The soil is never wet for more than a few days.
Fertility	Inherent fertility is moderate, as indicated by the exchangeable cation data. Phosphorus levels are high, although ironstone reduces availability. Organic carbon levels are satisfactory.
pH	Acidic at the surface, neutral with depth.
Rooting depth	80 cm in pit, but few roots below 53 cm.
Barriers to root growth	
Physical:	The subsoil clay is hard, but root growth should not be significantly affected.
Chemical:	There are no chemical limitations.
Water holding capacity	Approximately 60 mm in the root zone.
Seedling emergence:	Satisfactory.
Workability:	Firm surface is easily worked, but in places ironstone gravel may be sufficient to excessively abrade implements. Hard setting conditions may develop, reducing time frame for effective working.

Erosion Potential

Water: Low.

Wind: 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 -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	
0-6	6.0	4.9	0	0.3	1.6	2.6	64	314	-	1.4	1.07	79.8	3.48	1.79	9.4	2.65	0.85	0.19	0.75	2.0
6-10	6.2	5.2	0	0.2	1.1	0.5	14	227	-	1.1	0.23	25.2	1.01	0.43	7.0	2.03	0.76	0.14	0.52	2.0
10-53	6.8	6.1	0	0.1	0.4	0.5	5	236	-	2.7	0.04	2.4	0.07	0.07	14.8	5.02	3.24	0.36	0.72	2.4
53-80	7.0	6.3	0	0.1	0.4	0.1	<4	257	-	4.1	0.02	1.3	0.04	0.06	13.9	4.30	4.30	0.76	0.76	5.5
80-145	7.3	6.4	0	0.1	0.6	0.6	<4	254	-	4.4	0.03	1.4	0.13	0.04	13.1	4.06	3.78	0.86	0.63	6.6

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