## **IRONSTONE GRAVELLY LOAM OVER RED CLAY**

(Ironstone gravelly red brown earth)

General Description: Loam over red structured clay with minor to moderate ironstone

gravel throughout and calcareous with depth

**Landform:** Undulating rises.

**Substrate:** Heavy clay.

Vegetation:

Type Site: Site No.: EL007 1:50,000 mapsheet: 6029-1 (Cockaleechie)

Hundred:ShannonEasting:570800Section:3Northing:6222350

Sampling date: 26/03/1992 Annual rainfall: 425 mm average

Gentle slope of 2-3%. Hard setting surface with 2-10% calcrete (20-60 mm).

## **Soil Description:**

Depth (cm) Description

0-5 Orange firm clay loam with weak subangular

blocky structure and 2-10% ironstone concretions.

Sharp to:

5-23 Red hard medium clay with strong coarse

prismatic breaking to fine angular blocky structure

and 2-10% ironstone concretions. Clear to:

23-33 Yellowish red hard very highly calcareous

medium clay with moderate subangular blocky structure and 2-10% ironstone concretions. Clear

to:

33-110 Reddish yellow hard massive very highly

calcareous medium clay with 2-10% ironstone

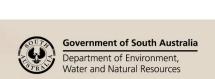
concretions. Clear to:

110-180 Red very hard heavy clay with strong angular

blocky structure, 2-10% ironstone concretions and

20-50% fine carbonate segregations.

Classification: Sodic, Hypercalcic, Red Chromosol; thin, slightly gravelly, clay loamy / clayey, very deep





## Summary of Properties

**Drainage:** Moderately well drained. Soil rarely remains wet for more than a few days.

**Fertility:** Inherent fertility is moderate, as indicated by the exchangeable cation data. Nutrient

retention capacity is favourable due to high clay and organic matter contents of

surface soil. All tested nutrient elements are well supplied.

**pH:** Slightly alkaline at the surface, strongly alkaline with depth.

**Rooting depth:** 33 cm in pit.

Barriers to root growth:

**Physical:** The hard clayey subsoil restricts root growth to some extent.

**Chemical:** High pH and sodicity from 33 cm limit deeper root growth.

**Waterholding capacity:** Approximately 45 mm in the rootzone.

**Seedling emergence:** Fair. Hard setting surface seals over and may reduce emergence percentages.

**Workability:** Fair. Limited moisture range over which soil can be effectively cultivated.

**Erosion Potential:** 

Water: Moderately low.

Wind: Low.

## Laboratory Data

Depth cm	pH H <sub>2</sub> O	pH CaC1 <sub>2</sub>	-	EC1:5 dS/m	ECe dS/m	%	P		mg/kg	Boron mg/kg			Elements mg/kg (DTPA)			Exchangeable Cations cmol(+)/kg				ESP
							mg/kg	mg/kg			Cu	Fe	Mn	Zn	(+)/kg	Ca	Mg	Na	K	
0-5	7.7	7.4	9	0.2	0.7	1.57	72	-	8	3.5	1.04	12.1	4.22	0.82	23.8	19.1	3.2	0.49	2.06	2.1
5-23	7.7	7.5	4	0.4	1.8	0.56	8	-	9	3.9	0.33	16.7	0.57	0.45	38.3	29.1	6.8	1.07	1.43	2.8
23-33	8.2	7.9	30	0.4	1.7	-	1	-	8	4.7	0.35	7.8	0.53	0.38	29.7	19.9	7.3	1.83	1.19	6.2
33-110	9.5	8.4	41	0.6	1.8	1	1	-	100	6.7	0.35	7.8	0.53	0.33	18.1	4.6	6.9	6.91	1.20	38.2
110-180	9.5	8.3	27	0.7	2.7	ı	1	-	106	9.8	0.48	12.9	1.09	0.43	19.4	3.6	6.5	9.06	1.74	46.7

**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

Further information: DEWNR Soil and Land Program



