## **BLEACHED IRONSTONE GRAVELLY SAND OVER CLAY**

*General Description:* Thick sand with a bleached subsurface layer and a band of ironstone

gravel, overlying a yellow to brown light clay grading to weak

sandstone

Landform: Undulating rises and low

**Substrate:** Massive weakly cemented

sandstone of Tertiary? Age.

**Vegetation:** 

**Type Site:** 

Site No.: CH152 1:50,000 mapsheet: 6626-4 (Encounter)

Hundred: 276350 Waitpinga Easting: Section: 370 Northing: 6056650

Sampling date: 11/10/06

Crest of low hill, 3% slope. Loose surface with 2-10% ironstone gravel.

## **Soil Description:**

Depth (cm) Description

0 - 10Dark greyish brown loose single grain light loamy

sand with 2-10% ironstone gravel (2-20 mm).

Clear to:

10-23 Light grey loose single grain light loamy sand

with 2-10% ironstone gravel(2-20 mm). Clear to:

23-42 Strong brown soft single grain loamy sand with

20-50% sandstone fragments (6-20 mm) and 20-

50% ironstone gravel (2-60 mm). Abrupt to:

42-50 Yellowish brown and yellowish red firm fine

sandy light clay with moderate subangular blocky

structure. Abrupt to:

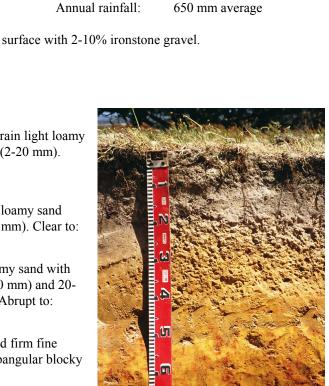
50-80 Brownish yellow, red and light yellowish brown

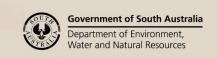
firm massive light sandy clay loam (weak

sandstone).

**Classification:** Bleached-Ferric, Eutrophic, Brown Chromosol; thick, slightly gravelly, sandy / clayey,

moderate







## Summary of Properties

**Drainage:** Well drained. The soil is unlikely to remain saturated for more than a day or so

following heavy or prolonged rainfall.

**Fertility:** Inherent fertility is low due to the low clay content of the surface soil. This is

compounded by the presence of ironstone, which reduces the availability of phosphorus. At the sampling site, data indicates deficiencies of phosphorus,

potassium, copper, manganese and zinc.

**pH:** Neutral at the surface, slightly alkaline with depth.

**Rooting depth:** 50 cm in sampling pit, with a mat of roots running along the surface of the substrate

sandstone at 50 cm.

**Barriers to root growth:** 

**Physical:** The strength of the underlying sandstone presents a significant barrier to roots, at

least of annual plants.

**Chemical:** The only chemical barrier is low nutrient availability.

Waterholding capacity: Approximately 40 mm in the rootzone.

**Seedling emergence:** Fair to satisfactory, depending on severity of water repellence.

**Workability:** Loose sandy surface is easily worked.

**Erosion Potential:** 

**Water:** Low, due to topographic position. Moderate on slopes.

**Wind:** Moderate to moderately high due to loose sandy surface and exposed position.

## Laboratory Data

Depth cm	pH H <sub>2</sub> O	pH CaC1 <sub>2</sub>	5	EC 1:5 dS/m	ECe dS/m	Org.C %	P	K	mg/kg	Boron mg/kg	Trace Elements mg/kg (EDTA)				Sum	Exchangeable Cations cmol(+)/kg				ESP
							mg/kg	mg/kg			Cu	Fe	Mn	Zn	cmol (+)/kg	Ca	Mg	Na	K	
0-10	7.4	6.6	0	0.02	0.83	1.74	14	94	13.3	0.4	0.16	80	7.29	1.03	5.6	4.22	1.01	0.19	0.21	3.4
10-23	7.5	6.9	0	0.06	0.50	0.52	3	32	3.9	0.3	0.14	66	1.74	0.13	3.8	3.16	0.43	0.14	0.07	3.7
23-42	7.6	7.2	0	0.11	0.68	0.38	4	54	5.6	0.3	0.25	156	1.80	0.13	5.8	4.55	0.90	0.18	0.17	3.1
42-50	7.5	6.9	0	0.16	0.93	0.52	2	119	22.4	0.7	0.14	41	2.67	0.13	14.1	8.48	4.98	0.34	0.33	2.4
50-80	7.6	7.3	0	0.32	1.55	0.22	2	82	106	0.6	0.18	9	1.84	0.17	14.1	8.97	4.64	0.28	0.23	2.0

**Note**: Paddock sample bulked from cores (0-10 cm) taken around the pit.

Sum of cations, in a neutral to alkaline soil, approximates the CEC (cation exchange capacity), 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



