Project Name: **Regional**
Project Code: **REG** **Site ID:** **T415** **Observation ID:** **1**
Agency Name: **CSIRO Division of Soils (QLD)**

Site Information

Desc. By: M.G. Cannon
Date Desc.: 16/09/85
Map Ref.: Sheet No. : 7861 1:100000
Northing/Long.: 144.883333333333
Easting/Lat.: -18.0333333333333
Locality: B. Bateman D.P.I. trial site `Pinnerendi':
Elevation: 760 metres
Rainfall: 774
Runoff: Slow
Drainage: Well drained

Geology

ExposureType: Undisturbed soil core
Geol. Ref.: Qa
Conf. Sub. is Parent. Mat.: No Data
Substrate Material: Unconsolidated material (unidentified)

Land Form

Rel/Slope Class: Level plain <9m <1%
Morph. Type: Flat
Elem. Type: Fan
Slope: 1 %
Pattern Type: Plain
Relief: No Data
Slope Category: Level
Aspect: No Data

Surface Soil Condition (dry): Recently cultivated

Erosion:

Soil Classification

Australian Soil Classification:
Ferric Mesotrophic Red Dermosol
ASC Confidence:
All necessary analytical data are available.
Mapping Unit: N/A
Principal Profile Form: Dr2.51
Great Soil Group: Red earth

Site Disturbance: Cultivation. Rainfed

Vegetation:

Surface Coarse Fragments:

Profile Morphology

A1p	0 - 0.08 m	Dark reddish brown (2.5YR3/4-Moist); Reddish brown (2.5YR4/4-Dry); ; Sandy clay loam (Light); Weak grade of structure, 2-5 mm, Subangular blocky; Weak grade of structure, Subangular blocky; Earthy fabric; Dry; Very weak consistence; Common, very fine (0-1mm) roots; Clear, Wavy change to -
A2p	0.08 - 0.15 m	Dark reddish brown (2.5YR3/4-Moist); ; Sandy clay loam; Weak grade of structure, <2 mm, Subangular blocky; Massive grade of structure; Earthy fabric; Dry; Very weak consistence; Many (20 - 50 %), Ferruginous, Very coarse (20 - 60 mm), Nodules; Common, very fine (0-1mm) roots; Clear, Wavy change to -
B1	0.15 - 0.25 m	Dusky red (10R3/4-Moist); ; Sandy medium clay; Weak grade of structure, <2 mm, Subangular blocky; Massive grade of structure; Earthy fabric; Moderately moist; Weak consistence; Few (2 - 10 %), Ferruginous, Medium (2 -6 mm), Nodules; Few, very fine (0-1mm) roots; Gradual, Wavy change to -
B21	0.25 - 0.5 m	Dark red (10R3/6-Moist); ; Light medium clay; Weak grade of structure, <2 mm, Subangular blocky; Massive grade of structure; Earthy fabric; Moderately moist; Firm consistence; Common (10 - 20 %), Manganiferous, Coarse (6 - 20 mm), Nodules; Few, very fine (0-1mm) roots; Diffuse, Wavy change to -
B22	0.5 - 0.7 m	Red (10R4/6-Moist); Red (10R4/6-Dry); , 10YR78, 2-10% , 0-5mm, Distinct; , 2-10% , 0-5mm, Distinct; Light medium clay; Strong grade of structure, 2-5 mm, Angular blocky; Smooth-ped fabric; Moderately moist; Firm consistence; Many cutans, >50% of ped faces or walls coated, prominent; Very many (50 - 100 %), Ferruginous, Very coarse (20 - 60 mm), Nodules; Few, very fine (0-1mm) roots;
B22	0.7 - 0.9 m	Red (10R4/6-Moist); Red (10R4/6-Dry); , 10YR78, 2-10% , 0-5mm, Distinct; , 2-10% , 0-5mm, Distinct; Light medium clay; Strong grade of structure, 2-5 mm, Angular blocky; Smooth-ped fabric; Moderately moist; Firm consistence; Many cutans, >50% of ped faces or walls coated, prominent; Very many (50 - 100 %), Ferruginous, Very coarse (20 - 60 mm), Nodules;

Morphological Notes

Observation Notes

B22n IS EARTHY MATRIX KIDNEY SHAPED IRON RICH NODULES:

Site Notes

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Laboratory Test Results:

Depth	pH	1:5 EC	Exchangeable Cations				Exchangeable Acidity	CEC	ECEC	ESP
			Ca	Mg	K	Na				
m		dS/m	Cmol (+)/kg							%
0 - 0.08	6.35A	0.013A	7.04H	1.81	0.87	0.04	0.04F	6.7A	9.8F	0.60
								10C		0.40
0.08 - 0.15	6.79A	0.02A								
0.15 - 0.25	7.02A	0.27A								
0.25 - 0.5	6.54A	0.045A	3.37H	1.23	0.3	0.02	0.03F	3.4A	5F	0.59
								4C		0.50
0.5 - 0.7	7.15A	0.023A								
0.7 - 0.9	6.56A	0.023A	1.89H	1.32	0.18	0.03	0.04F	3.2A	3.5F	0.94
								3C		1.00

Depth	CaCO3	Organic C	Avail. P	Total P	Total N	Total K	Bulk Density	Particle Size Analysis				
								GV	CS	FS	Silt	Clay
m	%	%	mg/kg	%	%	%	Mg/m3			%		
0 - 0.08		2.95C	22A	0.042A	0.07A	0.21A		13	44D	25	7	24
			39B									
0.08 - 0.15								10	40D	21	6	33
0.15 - 0.25								6	41D	28	7	24
0.25 - 0.5		0.57C	6A	0.029A	0.01A	0.2A		18	29D	18	5	49
			4B									
0.5 - 0.7								30	25D	11	5	59
0.7 - 0.9		0.12C	5A	0.017A	<0.01A	0.13A		63	46D	11	3	40
			3B									

Depth	COLE	Gravimetric/Volumetric Water Contents						K sat	K unsat
		Sat.	0.05 Bar	0.1 Bar	0.5 Bar	1 Bar	5 Bar	15 Bar	
m		g/g - m3/m3						mm/h	mm/h
0 - 0.08									
0.08 - 0.15									
0.15 - 0.25									
0.25 - 0.5									
0.5 - 0.7									
0.7 - 0.9									

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Laboratory Analyses Completed for this profile

10A1	Total sulfur - X-ray fluorescence
12_HF_CU	Total element - Cu(mg/kg) - HF/HClO4 Digest
12_HF_FE	Total element - Fe(%) - HF/HClO4 Digest
12_HF_MN	Total element - Mn(mg/kg) - HF/HClO4 Digest
12_HF_ZN	Total element - Zn(mg/kg) - HF/HClO4 Digest
13C1_AL	Citrate/dithionite-extractable iron, aluminium, Manganese and Silicon
13C1_FE	Citrate/dithionite-extractable iron, aluminium, Manganese and Silicon
15A2_CEC	Exchangeable bases- 1M ammonium chloride at pH 7.0, pretreatment for soluble salts
15D1_CEC	CEC - 1M ammonium acetate at pH 7.0, pretreatment for soluble salts; manual leach
15E1_CA	Exchangeable bases (Ca2+,Mg2+,Na+,K+) by compulsive exchange, no pretreatment for soluble
15E1_K	Exchangeable bases, CEC and AEC by compulsive exchange, no pretreatment for soluble salts
15E1_MG	Exchangeable bases, CEC and AEC by compulsive exchange, no pretreatment for soluble salts
15E1_NA	Exchangeable bases, CEC and AEC by compulsive exchange, no pretreatment for soluble salts
15G_C	Exchange acidity (hydrogen and aluminium) - meq per 100g of soil - By 1M KCl exch. acidity by titration to pH 8.4
15J1	Effective CEC
17A1	Total potassium - X-ray fluorescence
2A1	Air-dry moisture content
3A1	EC of 1:5 soil/water extract
4A1	pH of 1:5 soil/water suspension
6B3	Total organic carbon - high frequency induction furnace, infrared
7A2	Total nitrogen - semimicro Kjeldahl , automated colour
9A1	Total phosphorus - X-ray fluorescence
9B_9C	Available P (mg/kg) - Bicarbonate P - 0.5M NaHCO3 extractable
9G_BSES	Available P (mg/kg) - Acid P - 0.005M H2SO4 (BSES)
9H1	Phosphate retention
P10_GRAV	Gravel (%)
P10_PB_C	Clay (%) - Plummet balance
P10_PB_CS	Coarse sand (%) - Plummet balance
P10_PB_FS	Fine sand (%) - Plummet balance
P10_PB_Z	Silt (%) - Plummet balance