Project Name: IDF
Project Code: IDF **Site ID:** T471 **Observation ID:** 1
Agency Name: CSIRO Division of Soils (QLD)

Site Information

Desc. By: M.G. Cannon
Locality: TRIAL AREA 3 'SHELL PROJECT' INGHAM: SITE 304
Date Desc.: 22/09/86
Elevation: No Data
Map Ref.: Sheet No. : 8060 1:100000
Rainfall: 0
Northing/Long.: 145.911111111111
Runoff: Very slow
Easting/Lat.: -18.6236111111111
Drainage: Poorly drained

Geology

ExposureType: Undisturbed soil core
Conf. Sub. is Parent. Mat.: No Data
Geol. Ref.: Qa
Substrate Material: No Data

Land Form

Rel/Slope Class: Level plain <9m <1%
Pattern Type: Sheet-flood fan
Morph. Type: Flat
Relief: No Data
Elem. Type: Fan
Slope Category: Level
Slope: <1 %
Aspect: 70 degrees

Surface Soil Condition (dry): Hardsetting, Soft

Erosion:

Soil Classification

Australian Soil Classification:
Manganic Mottled-Mesonatric Grey Sodosol
ASC Confidence:
All necessary analytical data are available.

Mapping Unit: N/A
Principal Profile Form: Dy3.41
Great Soil Group: Soloth

Site Disturbance: Complete clearing. Pasture, native or improved, but never cultivated

Vegetation:

Surface Coarse Fragments:

Profile Morphology

A1sb	0 - 0.03 m	Dark greyish brown (10YR4/2-Moist); Light grey (10YR7/2-Dry); , 10YR72, 2-10% , 5-15mm, Distinct; , 2-10% , 5-15mm, Distinct; Fine sandy loam; Massive grade of structure; Earthy fabric; Moist; Very weak consistence; Common, medium (2-5mm) roots; Abrupt, Wavy change to -
A21cb	0.03 - 0.12 m	Light brownish grey (10YR6/2-Moist); White (10YR8/1-Dry); , 10YR78, 2-10% , 0-5mm, Faint; , 2-10% , 0-5mm, Faint; Coarse sandy clay loam (Light); Massive grade of structure; Earthy fabric; Moist; Weak consistence; Few, medium (2-5mm) roots; Clear, Wavy change to -
A22cb	0.12 - 0.18 m	Light grey (10YR7/2-Moist); White (10YR8/1-Dry); , 10YR78, 10-20% , 5-15mm, Distinct; , 10-20% , 5-15mm, Distinct; Sandy clay loam; Massive grade of structure; Earthy fabric; Moist; Weak consistence; Few, fine (1-2mm) roots; Clear, Wavy change to -
B21	0.18 - 0.59 m	Very pale brown (10YR7/3-Moist); , 10YR68, 20-50% , 5-15mm, Distinct; , 20-50% , 5-15mm, Distinct; Medium clay; Massive grade of structure; Earthy fabric; Moist; Very firm consistence; Few, medium (2-5mm) roots;
	0.59 - 0.89 m	Very pale brown (10YR7/3-Moist); , 10YR68, 20-50% , 5-15mm, Distinct; , 20-50% , 5-15mm, Distinct; Heavy clay; Massive grade of structure; Earthy fabric; Very firm consistence; 0-2%, fine gravelly, 2-6mm, angular, dispersed, Quartz, coarse fragments; Few, medium (2-5mm) roots; Diffuse change to -
B22	0.89 - 1.32 m	Light grey (10YR7/2-Moist); , 10YR68, 20-50% , 5-15mm, Distinct; , 20-50% , 5-15mm, Distinct; Sandy medium clay; Moderate grade of structure, 20-50 mm, Angular blocky; Massive grade of structure; Earthy fabric; Moist; Firm consistence; 20-50%, medium gravelly, 6-20mm, angular, dispersed, Granite, coarse fragments; Few, medium (2-5mm) roots; Gradual change to -
B23	1.32 - 1.67 m	Light grey (10YR7/2-Moist); , 10YR68, 20-50% , 5-15mm, Distinct; , 5YR58, 20-50% , 5-15mm, Distinct; Sandy light clay; Moderate grade of structure, 20-50 mm, Angular blocky; Massive grade of structure; Earthy fabric; Moist; Firm consistence; 10-20%, medium gravelly, 6-20mm, angular, dispersed, Granite, coarse fragments; Many (20 - 50 %), Manganiferous, Coarse (6 - 20 mm), Concretions; Few, coarse (>5mm) roots;
	1.67 - 2.23 m	Light grey (10YR7/1-Moist); , 10YR68, 20-50% , 5-15mm, Distinct; , 5YR58, 20-50% , 5-15mm, Distinct; Sandy medium clay; Moderate grade of structure, 20-50 mm, Angular blocky; Massive grade of structure; Earthy fabric; Firm consistence; 10-20%, medium gravelly, 6-20mm, angular, dispersed, Granite, coarse fragments; Many (20 - 50 %), Manganiferous, Coarse (6 - 20 mm), Concretions; Few, fine (1-2mm) roots; Diffuse change to -

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B24	2.23 - 2.58 m	Light grey (10YR7/1-Moist); , 10YR68, 20-50% , 5-15mm, Distinct; , 5YR58, 20-50% , 5-15mm, Distinct; Medium heavy clay; Weak grade of structure, 20-50 mm, Angular blocky; Massive grade of structure; Earthy fabric; Moderately moist; Very firm consistence; 10-20%, medium gravelly, 6-20mm, angular, dispersed, Granite, coarse fragments; Few (2 - 10 %), Manganiferous, Fine (0 - 2 mm), Concretions; Few, fine (1-2mm) roots;
	2.58 - 2.91 m	Light grey (10YR7/1-Moist); , 10YR68, 20-50% , 5-15mm, Distinct; , 5YR58, 20-50% , 5-15mm, Distinct; Sandy medium clay; Moderate grade of structure, 20-50 mm, Angular blocky; Massive grade of structure; Earthy fabric; Very firm consistence; 10-20%, fine gravelly, 2-6mm, angular, dispersed, Granite, coarse fragments; Few, fine (1-2mm) roots;
	2.91 - 3.01 m	;

Morphological Notes

Observation Notes

ROOTS ARE BETWEEN THE COARSE PEDS IN LOWER B:

Site Notes

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Laboratory Test Results:

Depth	pH	1:5 EC	Exchangeable Cations				Exchangeable	CEC	ECEC	ESP
			Ca	Mg	K	Na	Acidity			
m		dS/m	Cmol (+)/kg							%
0 - 0.03	5.5A	0.07A	0.88H	0.72	0.14	0.14		2.8A	1.9F	5.00
	5.5A	0.04A						4C		3.50
0.03 - 0.12	5.6A	0.02A	0.2H		0.05	0.07		2.1A		3.33
								2C		3.50
0.12 - 0.18	6.2A	0.02A								
0.18 - 0.59	6.1A	0.02A	0.25H	2.23	0.13	0.67		3A	3.3F	22.33
								5C		13.40
0.59 - 0.89	6.4A	0A	0.26H	4.14	0.11	1.14		5.1A	5.7F	22.35
								8C		14.25
0.89 - 1.32	6A	0A								
1.32 - 1.67	6A	0.1A	0.26H	2.65	0.05	1.28		5.6A	4.2F	22.86
								4C		32.00
1.67 - 2.23	6A	0.16A								
2.23 - 2.58	6.7A	0.17A	0.92H	3.56	0.06	2.01		5.6A	6.6F	35.89
								5C		40.20
2.58 - 2.91	6.9A	0.28A								
2.91 - 3.01										

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 - 0.03		1.92C	11A		0.04A			2	39A	31	22	8
		1.22C	10B									
0.03 - 0.12		0.38C	8A		0.01A			5	38A	32	21	8
			3B									
0.12 - 0.18		0.21C	8A					3	32A	35	24	9
			3B									
0.18 - 0.59		0.13C	9A		0.01A			6	27A	24	18	31
0.59 - 0.89					0.01A			7	23A	30	10	36
0.89 - 1.32								16	35A	26	19	20
1.32 - 1.67			9A					12	42A	23	17	18
			9B									
1.67 - 2.23								9	36A	25	18	21
2.23 - 2.58								8	35A	23	19	24
2.58 - 2.91								9	35A	20	17	29
2.91 - 3.01			10A		0.04A							
			<2B									

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 - 0.03										
0.03 - 0.12										
0.12 - 0.18										
0.18 - 0.59										
0.59 - 0.89										
0.89 - 1.32										
1.32 - 1.67										
1.67 - 2.23										

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2.23 - 2.58
2.58 - 2.91
2.91 - 3.01

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Laboratory Analyses Completed for this profile

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
15J1	Effective CEC
3A1	EC of 1:5 soil/water extract
4A1	pH of 1:5 soil/water suspension
5_C_B	Water soluble Chloride - Method recorded as B
6B3	Total organic carbon - high frequency induction furnace, infrared
7A2	Total nitrogen - semimicro Kjeldahl , automated colour
9B_9C	Available P (mg/kg) - Bicarbonate P - 0.5M NaHCO3 extractable
9G_BSES	Available P (mg/kg) - Acid P - 0.005M H2SO4 (BSES)
P10_CF_C	Clay (%) - Coventry and Fett pipette method
P10_CF_CS	Coarse sand (%) - Coventry and Fett pipette method
P10_CF_FS	Fine sand (%) - Coventry and Fett pipette method
P10_CF_Z	Silt (%) - Coventry and Fett pipette method
P10_GRAV	Gravel (%)