

Project Name: IDF
Project Code: IDF **Site ID:** T470 **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 301
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.:	-18.622222222222	Drainage:	Poorly drained

Geology

Exposure Type:	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:		Mapping Unit:	N/A
Bleached-Sodic Eutrophic Grey Kandosol		Principal Profile Form:	Gn2.91
ASC Confidence:		Great Soil Group:	Soloth
All necessary analytical data are available.			

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

Vegetation:

Surface Coarse Fragments:

Profile Morphology

A	0 - 0.03 m	Dark greyish brown (10YR4/2-Moist); Light grey (10YR7/2-Dry); ; Fine sandy clay loam; Weak grade of structure, 2-5 mm, Cast; Earthy fabric; Moist; Weak consistence; Common, fine (1-2mm) roots; Clear change to -
A21cb	0.03 - 0.1 m	Greyish brown (10YR5/2-Moist); White (10YR8/2-Dry); , 2-10% , 5-15mm, Prominent; , 2-10% , 5-15mm, Prominent; Sandy clay loam; Massive grade of structure; Earthy fabric; Moist; Weak consistence; Few, fine (1-2mm) roots; Gradual change to -
B11sb	0.1 - 0.21 m	Light brownish grey (10YR6/2-Moist); White (10YR8/1-Dry); , 10YR68, 20-50% , 5-15mm, Distinct; , 20-50% , 5-15mm, Distinct; Clay loam, fine sandy; Massive grade of structure; Earthy fabric; Moist; Weak consistence; Few, fine (1-2mm) roots; Gradual change to -
B12	0.21 - 0.36 m	Light grey (10YR7/2-Moist); , 10YR78, 20-50% , 5-15mm, Prominent; , 20-50% , 5-15mm, Prominent; Medium clay; Massive grade of structure; Earthy fabric; Moist; Firm consistence; 0-2%, fine gravelly, 2-6mm, angular, dispersed, Quartz, coarse fragments; Few, fine (1-2mm) roots; Diffuse change to -
B21	0.36 - 0.75 m	Light brownish grey (10YR6/2-Moist); , 10YR68, 20-50% , 5-15mm, Prominent; , 10R48, 20-50% , 5-15mm, Prominent; Medium heavy clay; Massive grade of structure; Earthy fabric; Moist; Firm consistence; 2-10%, fine gravelly, 2-6mm, angular, dispersed, Quartz, coarse fragments; Few, fine (1-2mm) roots; Diffuse change to -
B22	0.75 - 1.15 m	Grey (2.5Y6/1-Moist); , 10YR68, 20-50% , 5-15mm, Distinct; , 20-50% , 5-15mm, Distinct; Medium heavy clay; Weak grade of structure, 10-20 mm, Angular blocky; Massive grade of structure; Earthy fabric; Moist; Very firm consistence; 10-20%, fine gravelly, 2-6mm, angular, dispersed, Quartz, coarse fragments; Common (10 - 20 %), Manganiferous, Coarse (6 - 20 mm), Nodules; Few, medium (2-5mm) roots; Diffuse change to -
B23	1.15 - 1.47 m	Light grey (2.5Y7/1-Moist); , 10YR68, 10-20% , 5-15mm, Distinct; , 10-20% , 5-15mm, Distinct; Sandy medium clay (Heavy); Moderate grade of structure, 50-100 mm, Angular blocky; Massive grade of structure; Smooth-ped fabric; Moist; Strong consistence; 0-2%, fine gravelly, 2-6mm, angular, dispersed, Quartz, coarse fragments; Very few (0 - 2 %), Manganiferous, Medium (2 - 6 mm), Nodules; Few, fine (1-2mm) roots; Diffuse change to -

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	1.47 - 1.77 m	Light grey (2.5Y7/1-Moist); , 10YR68, 10-20% , 5-15mm, Distinct; , 10-20% , 5-15mm, Distinct; Medium heavy clay; Moderate grade of structure, 50-100 mm, Angular blocky; Massive grade of structure; Smooth-ped fabric; Strong consistence; 0-2%, fine gravelly, 2-6mm, angular, dispersed, Quartz, coarse fragments; Very few (0 - 2 %), Manganiferous, Medium (2 -6 mm), Nodules; Few, fine (1-2mm) roots; Diffuse change to -
B24	1.77 - 2 m	Grey (10YR6/1-Moist); , 10YR68, 10-20% , 5-15mm, Distinct; , 10-20% , 5-15mm, Distinct; Sandy medium clay; Massive grade of structure; Earthy fabric; Moderately moist; Strong consistence; 2-10%, fine gravelly, 2-6mm, angular, dispersed, Quartz, coarse fragments; Very few (0 - 2 %), Manganiferous, Medium (2 -6 mm), Nodules; Few, fine (1-2mm) roots;

Morphological Notes

Observation Notes

STRONG ROOTLINE GLEYING BELOW 177CM:

Site Notes

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Depth m	pH	1:5 EC dS/m	Ca	Exchangeable Mg	Cations K	Na Cmol (+)/kg	Exchangeable Acidity	CEC	ECEC	ESP %
0 - 0.03	5.4A 6A	0.05A	2.03H	1.04	0.4	0.16		3.2A 5C	3.6F	5.00 3.20
0.03 - 0.1	5.4A	0.04A								
0.1 - 0.21	5.4A	0.02A	0.09H	0.73	0.09	0.22		7.7A 3C	1.1F	2.86 7.33
0.21 - 0.36	5.7A	0.02A	3.26H	4.07	0.28	0.15		2.4A 7C	7.8F	6.25 2.14
0.36 - 0.75	6A	0.02A								
0.75 - 1.15	6A	0.04A	0.72H	3.51	0.07	0.76		5.4A 6C	5.1F	14.07 12.67
1.15 - 1.47	5.9A	0.1A								
1.47 - 1.77	6.1A	0.16A								
1.77 - 2	6.4A	0.17A								

Depth	CaCO3	Organic	Avail.	Total	Total	Total	Bulk	Particle		Size	Analysis	
m	%	C	P	P	N	K	Density	GV	CS	FS	Silt	Clay
			mg/kg	%	%	%	Mg/m3			%		
0 - 0.03		1.23C	12A		0.05A			1	30A	39	22	9
0.03 - 0.1		0.99C	7B									
		0.061C	8A		0.03A			2	30A	32	29	9
			4B									
0.1 - 0.21		0.03C	8A		0.03A			4	29A	33	28	10
			3B									
0.21 - 0.36		0.02C			0.03A			8	27A	30	24	19
0.36 - 0.75								7	32A	22	18	28
0.75 - 1.15			7A					8	31A	24	16	28
			2B									
1.15 - 1.47								3	27A	23	24	25
1.47 - 1.77								2	20A	24	27	29
1.77 - 2								11	30A	23	23	24

[illegible]

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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 (Ca ²⁺ ,Mg ²⁺ ,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 NaHCO ₃ extractable
9G_BSES	Available P (mg/kg) - Acid P - 0.005M H ₂ SO ₄ (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 (%)