

Project Name: Regional
Project Code: REG **Site ID:** T62 **Observation ID:** 1
Agency Name: CSIRO Division of Soils (QLD)

Site Information

Desc. By:	R.F. Isbell	Locality:	Adjacent Malanda School Hockey Grounds:
Date Desc.:	09/04/68	Elevation:	760 metres
Map Ref.:	Sheet No. : 8063 1:100000	Rainfall:	1524
Northing/Long.:	145.591666666667	Runoff:	Moderately rapid
Easting/Lat.:	-17.3583333333333	Drainage:	Rapidly drained

Geology

Exposure Type:	Undisturbed soil core	Conf. Sub. is Parent. Mat.:	No Data
Geol. Ref.:	Cza	Substrate Material:	Basalt

Land Form

Rel/Slope Class:	Undulating low hills 30-90m 3-10%	Pattern Type:	Low hills
Morph. Type:	Mid-slope	Relief:	30 metres
Elem. Type:	Hillslope	Slope Category:	Gently inclined
Slope:	0 %	Aspect:	0 degrees

Surface Soil Condition (dry): Loose, Self-mulching

Erosion:

Soil Classification

Australian Soil Classification:	Mapping Unit:	N/A
Acidic Dystrophic Red Ferrosol	Principal Profile Form:	Gn3.11
ASC Confidence:	Great Soil Group:	Krasnozem

All necessary analytical data are available.

Site Disturbance: No effective disturbance. Natural

Vegetation:

Surface Coarse Fragments: No surface coarse fragments

Profile Morphology

A1	0 - 0.1 m	Dark reddish brown (2.5YR3/4-Moist); , 0-0% ; , 0-0% ; Loam (Heavy); Strong grade of structure, 2-5 mm, Granular; Moderately moist; Weak consistence; Many, fine (1-2mm) roots;
A12	0.1 - 0.2 m	Dusky red (10R3/4-Moist); Dark red (2.5YR3/6-Dry); , 0-0% ; , 0-0% ; Clay loam; Moderate grade of structure, 2-5 mm, Subangular blocky; Moderately moist; Weak consistence; Common, fine (1-2mm) roots; Gradual change to -
B11	0.2 - 0.3 m	Dusky red (10R3/4-Moist); Dark red (2.5YR3/6-Dry); , 0-0% ; , 0-0% ; Clay loam; Weak grade of structure, 5-10 mm, Angular blocky; Moderately moist; Weak consistence; Common, fine (1-2mm) roots;
B12	0.3 - 0.6 m	Dusky red (10R3/4-Moist); Dark red (2.5YR3/6-Dry); , 0-0% ; , 0-0% ; Light clay; Moderate grade of structure, 5-10 mm, Angular blocky; Strong grade of structure, 2-5 mm, Polyhedral; Moderately moist; Weak consistence; Diffuse change to -
B21	0.6 - 0.9 m	Dusky red (10R3/4-Moist); Dark red (2.5YR3/6-Dry); , 0-0% ; , 0-0% ; Light medium clay; Moderate grade of structure, 5-10 mm, Angular blocky; Strong grade of structure, 2-5 mm, Polyhedral; Firm consistence; Diffuse change to -
B21	0.9 - 1.2 m	Dusky red (10R3/4-Moist); Dark red (2.5YR3/6-Dry); , 0-0% ; , 0-0% ; Medium clay; Moderate grade of structure, 5-10 mm, Angular blocky; Strong grade of structure, 2-5 mm, Polyhedral; Firm consistence; Diffuse change to -
B22	1.2 - 1.5 m	Dark red (2.5YR3/6-Moist); , 0-0% ; , 0-0% ; Medium clay; Moderate grade of structure, 5-10 mm, Angular blocky; Strong grade of structure, 2-5 mm, Polyhedral; Firm consistence; Diffuse change to -
B22	1.5 - 1.8 m	Dark red (2.5YR3/6-Moist); , 0-0% ; , 0-0% ; Medium clay; Moderate grade of structure, 5-10 mm, Angular blocky; Strong grade of structure, 2-5 mm, Polyhedral; Firm consistence;
B22	1.8 - 2.1 m	Dark red (2.5YR3/6-Moist); , 0-0% ; , 0-0% ; Medium clay; Moderate grade of structure, 5-10 mm, Angular blocky; Strong grade of structure, 2-5 mm, Polyhedral; Firm consistence;
B22	2.1 - 2.4 m	Dark red (2.5YR3/6-Moist); , 0-0% ; , 0-0% ; Medium clay; Moderate grade of structure, 5-10 mm, Angular blocky; Strong grade of structure, 2-5 mm, Polyhedral; Firm consistence;

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B23	2.4 - 2.7 m	Reddish brown (2.5YR4/4-Moist); , 0-0% ; , 0-0% ; Medium clay; Moderate grade of structure, 5-10 mm, Angular blocky; Strong grade of structure, 5-10 mm, Polyhedral; Firm consistence;
B23	2.7 - 3 m	Reddish brown (2.5YR4/4-Moist); , 0-0% ; , 0-0% ; Medium clay; Strong grade of structure, 5-10 mm, Angular blocky; Firm consistence;
B23	3 - 3.3 m	Reddish brown (2.5YR4/4-Moist); , 0-0% ; , 0-0% ; Medium clay; Strong grade of structure, 5-10 mm, Angular blocky; Firm consistence;
B24	3.3 - 3.6 m	Reddish brown (5YR4/4-Moist); , 0-0% ; , 0-0% ; Medium clay; Moderate grade of structure, 5-10 mm, Angular blocky; Firm consistence;
B24	3.6 - 3.9 m	Reddish brown (5YR4/4-Moist); , 0-0% ; , 0-0% ; Medium clay; Moderate grade of structure, 5-10 mm, Angular blocky; Firm consistence;
B24	3.9 - 4.2 m	Reddish brown (5YR4/4-Moist); , 0-0% ; , 0-0% ; Medium clay; Moderate grade of structure, 5-10 mm, Angular blocky; Firm consistence;
B24	4.2 - 4.5 m	Reddish brown (5YR4/4-Moist); , 0-0% ; , 0-0% ; Medium clay; Moderate grade of structure, 5-10 mm, Angular blocky; Firm consistence;
B24	4.5 - 4.8 m	Reddish brown (5YR4/4-Moist); , 0-0% ; , 0-0% ; Medium clay; Moderate grade of structure, 5-10 mm, Angular blocky; Firm consistence;
B24	4.8 - 5.1 m	Reddish brown (5YR4/4-Moist); , 5YR53; Medium clay; Weak grade of structure, 5-10 mm, Angular blocky; Firm consistence;
B24	5.1 - 5.3 m	Reddish brown (5YR4/4-Moist); , 5YR53; Medium clay; Weak grade of structure, 5-10 mm, Angular blocky; Firm consistence;
B24	5.3 - 5.55 m	Reddish brown (5YR4/4-Moist); , 5YR77; , 5YR53; Medium clay;
BC	5.55 - 6.05 m	; Light medium clay;
BC	6.05 - 6.65 m	Reddish brown (5YR4/4-Moist); , 5YR77; , 5YR53; Light medium clay;
BC	6.65 - 7.25 m	Reddish brown (5YR4/4-Moist); , 5YR77; , 5YR53; Light medium clay;
BC	7.25 - 7.95 m	Red (2.5YR4/8-Moist); , 5YR44; , 10YR76;
C	7.95 - 8.27 m	;

Morphological Notes

C Mod soft weathered basalt:

Observation Notes

A0 HORIZON 0-+2CM PARTLY DECOMPOSED LITTER: MANY CASTS THROUGHOUT PROFILE: MODERATELY SOFT BASALT FROM 330CM:

Site Notes

MALANDA

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4.5 - 4.8							
4.8 - 5.1		0.212A	0.023A		1D	10	10
5.1 - 5.3							72
5.3 - 5.55							
5.55 - 6.05		0.212A	0.005A				
6.05 - 6.65							
6.65 - 7.25							
7.25 - 7.95							
7.95 - 8.27		0.259A	0.004A		5D	27	14
							44

Depth m	COLE	Gravimetric/Volumetric Water Contents						K sat mm/h	K unsat mm/h
		Sat.	0.05 Bar	0.1 Bar	0.5 Bar	1 Bar	5 Bar		
g/g - m ³ /m ³									

0 - 0.1
 0.1 - 0.2
 0.2 - 0.3
 0.3 - 0.6
 0.6 - 0.9
 0.9 - 1.2
 1.2 - 1.5
 1.5 - 1.8
 1.8 - 2.1
 2.1 - 2.4
 2.4 - 2.7
 2.7 - 3
 3 - 3.3
 3.3 - 3.6
 3.6 - 3.9
 3.9 - 4.2
 4.2 - 4.5
 4.5 - 4.8
 4.8 - 5.1
 5.1 - 5.3
 5.3 - 5.55
 5.55 - 6.05
 6.05 - 6.65
 6.65 - 7.25
 7.25 - 7.95
 7.95 - 8.27

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Laboratory Analyses Completed for this profile

10A1 Total sulfur - X-ray fluorescence
13C1_FE Citrate/dithionite-extractable iron, aluminium, Manganese and Silicon
15A2_CA Exchangeable bases (Ca²⁺,Mg²⁺,Na⁺,K⁺) - 1M ammonium chloride at pH 7.0, pretreatment for soluble salts
15A2_K Exchangeable bases- 1M ammonium chloride at pH 7.0, pretreatment for soluble salts
15A2_MG Exchangeable bases- 1M ammonium chloride at pH 7.0, pretreatment for soluble salts
15A2_NA Exchangeable bases- 1M ammonium chloride at pH 7.0, 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
2_LOI Loss on Ignition (%)
3A1 EC of 1:5 soil/water extract
4A1 pH of 1:5 soil/water suspension
5A2 Chloride - 1:5 soil/water extract, automated colour
6A1_UC Organic carbon (%) - Uncorrected Walkley and Black method
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
XRD_C_Hm Hematite - X-Ray Diffraction
XRD_C_Ka Kaolin - X-Ray Diffraction
XRD_C_Mh Meghemite - X-Ray Diffraction
XRD_C_Qz Quartz - X-Ray Diffraction