Project Name: **Regional**
Project Code: **REG** **Site ID:** **T206** **Observation ID:** **1**
Agency Name: **CSIRO Division of Soils (QLD)**

Site Information

Desc. By: G.G. Murtha
Date Desc.: 16/10/73
Map Ref.: Sheet No. : 8062 1:100000
Northing/Long.: 145.966666666667
Easting/Lat.: -17.9666666666667
Locality:
Elevation: 30 metres
Rainfall: 3800
Runoff: No runoff
Drainage: Well drained

Geology

ExposureType: Soil pit
Geol. Ref.: QA
Conf. Sub. is Parent. Mat.: No Data
Substrate Material: Unconsolidated material (unidentified)

Land Form

Rel/Slope Class: Gently undulating rises 9-30m 1-3%
Morph. Type: Mid-slope
Elem. Type: Fan
Slope: 7 %
Pattern Type: Alluvial fan
Relief: No Data
Slope Category: Gently inclined
Aspect: No Data

Surface Soil Condition (dry): Soft

Erosion:

Soil Classification

Australian Soil Classification:
Acidic Dystrophic Red Kandosol
ASC Confidence:
All necessary analytical data are available.
Mapping Unit: N/A
Principal Profile Form: Gn2.14
Great Soil Group: Red earth

Site Disturbance:

Vegetation:

Surface Coarse Fragments: No surface coarse fragments

Profile Morphology

A1	0 - 0.1 m	Very dark greyish brown (10YR3/2-Moist); ; Coarse sandy loam (Heavy); Moderate grade of structure, 5-10 mm, Subangular blocky; Firm consistence; Abundant, fine (1-2mm) roots; Gradual change to -
A2	0.1 - 0.2 m	Dark yellowish brown (10YR4/4-Moist); ; Sandy clay loam (Light); Weak grade of structure, 5-10 mm, Subangular blocky; Firm consistence; Abundant, fine (1-2mm) roots;
A2	0.2 - 0.3 m	Dark yellowish brown (10YR4/4-Moist); ; Sandy clay loam (Light); Massive grade of structure; Earthy fabric; Firm consistence; Few (2 - 10 %), Ferromanganiferous, , Soft segregations; Many, fine (1-2mm) roots; Diffuse change to -
A3	0.3 - 0.4 m	Strong brown (7.5YR5/6-Moist); , 7.5YR44, 10-20% , 5-15mm, Distinct; , 10-20% , 5-15mm, Distinct; Sandy clay loam; Massive grade of structure; Earthy fabric; Firm consistence; Few (2 - 10 %), Ferromanganiferous, , Soft segregations; Few, fine (1-2mm) roots; Diffuse change to -
B1	0.4 - 0.6 m	Red (2.5YR4/6-Moist); ; Sandy clay loam; Massive grade of structure; Earthy fabric; Firm consistence; Few (2 - 10 %), Ferromanganiferous, , Soft segregations;
B1	0.6 - 0.9 m	Red (2.5YR4/6-Moist); ; Sandy clay loam (Heavy); Massive grade of structure; Earthy fabric; Firm consistence;
B2	0.9 - 1.2 m	Red (2.5YR4/8-Moist); ; Sandy light clay; Massive grade of structure; Earthy fabric; Firm consistence;
B2	1.2 - 1.5 m	Red (2.5YR4/8-Moist); ; Sandy medium clay; Massive grade of structure; Earthy fabric; Firm consistence; 2-10%, coarse gravelly, 20-60mm, Granite, coarse fragments;
B3	1.5 - 1.8 m	Yellowish red (5YR5/8-Moist); , 7.5YR68, 10-20% , 5-15mm, Distinct; , 10-20% , 5-15mm, Distinct; Sandy clay loam; Massive grade of structure; Earthy fabric; Weak consistence; 20-50%, coarse gravelly, 20-60mm, Granite, coarse fragments; Diffuse change to -
C	1.8 - 2.1 m	Yellowish red (5YR5/8-Moist); , 7.5YR68, 10-20% , 5-15mm, Distinct; , 10-20% , 5-15mm, Distinct; Sandy clay loam; Massive grade of structure; Earthy fabric; Weak consistence; 20-50%, coarse gravelly, 20-60mm, Granite, coarse fragments;

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C	2.1 - 2.4 m	Yellowish red (5YR5/8-Moist); , 7.5YR68, 10-20% , 5-15mm, Distinct; , 10-20% , 5-15mm, Distinct; Sandy clay loam; Massive grade of structure; Earthy fabric; Weak consistence; 20-50%, coarse gravelly, 20-60mm, Granite, coarse fragments;
C	2.4 - 2.7 m	Yellowish red (5YR5/8-Moist); , 7.5YR68, 10-20% , 5-15mm, Distinct; , 10-20% , 5-15mm, Distinct; Sandy clay loam; Massive grade of structure; Earthy fabric; Weak consistence; 20-50%, coarse gravelly, 20-60mm, Granite, coarse fragments;

Morphological Notes

Observation Notes

Site Notes

MOUNT MACKAY

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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 - 0.1	5.7A	<0.05A	1.3H	0.77	0.17	0.04	0.61F	3A	2.9F	1.33
0.1 - 0.2	5.6A	<0.05A	0.45H	0.46	0.13	0.02	0.55F	2.1A	1.6F	0.95
0.2 - 0.3	5.4A	<0.05A								
0.3 - 0.4	5.5A	<0.05A								
0.4 - 0.6	5.3A	<0.05A	0.25H	0.58	0.13	0.05	0.55F	2.1A	1.6F	2.38
0.6 - 0.9	5A	0.059A	0.2H	0.55	0.14	0.03	0.84F	2.5A	1.8F	1.20
0.9 - 1.2	5A	<0.05A	0.15H	0.35	0.06	0.02	1.11F	2.1A	1.7F	0.95
1.2 - 1.5	5A	<0.05A								
1.5 - 1.8	5A	<0.05A								
1.8 - 2.1	4.9A	<0.05A								
2.1 - 2.4	5A	<0.05A								
2.4 - 2.7	4.9A	<0.05A								

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 - 0.1		1.84D	21B	0.017A	0.19A	0.76A		8	65A	12	8	16
0.1 - 0.2		0.54D	5B					6	63A	12	8	18
0.2 - 0.3			3B									
0.3 - 0.4		0.23D	2B					<2	50A	14	8	27
0.4 - 0.6		0.15D	1B	0.011A		0.64A		<2	53A	13	7	29
0.6 - 0.9												
0.9 - 1.2				0.012A		0.61A		4	49A	13	5	36
1.2 - 1.5								10	49A	11	4	35
1.5 - 1.8												
1.8 - 2.1												
2.1 - 2.4												
2.4 - 2.7												

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 - 0.1										
0.1 - 0.2										
0.2 - 0.3										
0.3 - 0.4										
0.4 - 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										

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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_ZN	Total element - Zn(mg/kg) - HF/HClO4 Digest
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
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
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
9G_BSES	Available P (mg/kg) - Acid P - 0.005M H2SO4 (BSES)
MIN_EC	Exchange Capacity - Minerology
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 (%)
XRD_C_Gt	Geothite - X-Ray Diffraction
XRD_C_Il	Illite - X-Ray Diffraction
XRD_C_K2O	K2O - X-Ray Diffraction or Clay Fraction (air dry)
XRD_C_Ka	Kaolin - X-Ray Diffraction
XRD_C_St	Smectite - X-Ray Diffraction
XRD_C_Vm	Vermiculte - X-Ray Diffraction