

Project Name: MAR
Project Code: MAR **Site ID:** B314 **Observation ID:** 1
Agency Name: CSIRO Division of Soils (QLD)

Site Information

Desc. By:	C.H. Thompson	Locality:	
Date Desc.:	08/06/57	Elevation:	413 metres
Map Ref.:	Sheet No. : 7963 1:100000	Rainfall:	914
Northing/Long.:	145.466666666667	Runoff:	Slow
Easting/Lat.:	-17.0230555555556	Drainage:	Imperfectly drained

Geology

ExposureType:	Soil pit	Conf. Sub. is Parent. Mat.:	No Data
Geol. Ref.:	No Data	Substrate Material:	Auger boring, 2 m deep, Unconsolidated material (unidentified)

Land Form

Rel/Slope Class:	Gently undulating plains <9m 1-3%	Pattern Type:	Plain
Morph. Type:	No Data	Relief:	No Data
Elem. Type:	No Data	Slope Category:	No Data
Slope:	0 %	Aspect:	No Data

Surface Soil Condition (dry):

Erosion:

Soil Classification

Australian Soil Classification:		Mapping Unit:	N/A
Bleached-Vertic Hypocalcic Red Chromosol		Principal Profile Form:	Dr2.42
ASC Confidence:		Great Soil Group:	Solodic soil
All necessary analytical data are available.			

Site Disturbance: No effective disturbance other than grazing by hoofed animals

Vegetation: Low Strata - Tussock grass, , . *Species includes - Heteropogon contortus
Mid Strata - Tree, 3.01-6m, Isolated plants. *Species includes - Eucalyptus papuana, Grevillea striata
Tall Strata - Tree, 6.01-12m, Mid-dense. *Species includes - Eucalyptus leptophleba, Eucalyptus polycarpa

Surface Coarse Fragments: No surface coarse fragments

Profile Morphology

A1	0 - 0.03 m	Dark grey (10YR4/1-Moist); ; Fine sandy loam (Heavy); Massive grade of structure; Few (<1 per 100mm ²) Very fine (0.075-1mm) macropores, Dry; Weak consistence; Very few (0 - 2 %), Ferromanganiferous, Fine (0 - 2 mm), Nodules; Field pH 6.1 (pH meter); Abrupt change to -
A2	0.03 - 0.13 m	Pale brown (10YR6/3-Moist); White (10YR8/2-Dry); ; Fine sandy loam (Heavy); Massive grade of structure; Many (>5 per 100mm ²) Very fine (0.075-1mm) macropores, Dry; Firm consistence; 2-10%, fine gravelly, 2-6mm, Quartz, coarse fragments; Few (2 - 10 %), Ferromanganiferous, Fine (0 - 2 mm), Nodules; Field pH 6 (pH meter); Abrupt change to -
B1	0.13 - 0.16 m	White (10YR8/2-Dry); ; Light clay; Weak grade of structure, 20-50 mm, Angular blocky; Massive grade of structure; Few (<1 per 100mm ²) Very fine (0.075-1mm) macropores, Dry; Very firm consistence; 0-2%, fine gravelly, 2-6mm, Quartz, coarse fragments; Very few (0 - 2 %), Ferromanganiferous, Fine (0 - 2 mm), Nodules; Field pH 6.1 (pH meter); Abrupt change to -
B21	0.16 - 0.36 m	Yellowish red (5YR3/5-Moist); ; Medium heavy clay; Strong grade of structure, 20-50 mm, Angular blocky; Many (>5 per 100mm ²) Very fine (0.075-1mm) macropores, Moderately moist; Very firm consistence; 2-10%, fine gravelly, 2-6mm, Quartz, coarse fragments; Field pH 6.6 (pH meter); Gradual change to -
B22	0.38 - 0.53 m	Reddish brown (5YR4/4-Moist); ; Medium heavy clay; Moderate grade of structure, 50-100 mm, Angular blocky; Moderately moist; Very firm consistence; 0-2%, fine gravelly, 2-6mm, Quartz, coarse fragments; Field pH 6.5 (pH meter); Gradual change to -
B3	0.53 - 0.69 m	Dark greyish brown (2.5Y4/3-Moist); , 10YR44; Light clay; Moderate grade of structure, 20-50 mm, Angular blocky; Moderately moist; Very firm consistence; 0-2%, fine gravelly, 2-6mm, Quartz, coarse fragments; Field pH 6.8 (pH meter); Gradual change to -
2B2b	0.69 - 0.84 m	Olive brown (2.5Y3/3-Moist); , 10YR58; Light medium clay; Strong grade of structure, 10-20 mm, Polyhedral; Moderately moist; Firm consistence; Field pH 7.7 (pH meter); Gradual change to -
2B2b	0.84 - 1.02 m	Greyish brown (2.5Y5/3-Moist); , 5YR58; Light medium clay; Strong grade of structure, 10-20 mm, Polyhedral; Moderately moist; Firm consistence; Very few (0 - 2 %), Calcareous, Fine (0 - 2 mm), Nodules; Field pH 8.5 (pH meter);

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Observation Notes

Site Notes

MAREEBA

Morphological Notes

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Laboratory Test Results:

Depth	pH	1:5 EC	Ca	Exchangeable Mg	Cations K	Na	Exchangeable Acidity	CEC	ECEC	ESP
m		dS/m				Cmol (+)/kg				%
0 - 0.03	6.1H	0.02B								
0.03 - 0.13	6H	0.01B	2K	0.84	0.24	0.05		4.9J		1.02
0.13 - 0.16	6.1H	0.01B								
0.16 - 0.36	6.6H	0.01B	9.8K	3.9	0.69	0.91		19.2J		4.74
0.38 - 0.53	6.5H	0.02B								
0.53 - 0.69	6.8H	0.05B								
0.69 - 0.84	7.7H	0.08B								
0.84 - 1.02	8.5H	0.1B	10.7K	1.3	0.27	1.9				

Depth	CaCO3	Organic C	Avail. P	Total P	Total N	Total K	Bulk Density	Particle GV	Size CS	Analysis FS	Silt	Clay
m	%	%	mg/kg	%	%	%	Mg/m3			%		
0 - 0.03		1.57E		0.022F				1	13C	48	21	13
0.03 - 0.13		0.48E 0.37E	5C	0.028F	0.04B			5	16C	48	23	14
0.13 - 0.16								1	12C	37	23	29
0.16 - 0.36		0.24E		0.015F					5C	18	14	63
0.38 - 0.53												
0.53 - 0.69									11C	34	20	35
0.69 - 0.84												
0.84 - 1.02	0.28C			0.033F				2	15C	31	24	33

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

0 - 0.03
 0.03 - 0.13
 0.13 - 0.16
 0.16 - 0.36
 0.38 - 0.53
 0.53 - 0.69
 0.69 - 0.84
 0.84 - 1.02

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Laboratory Analyses Completed for this profile

15_NR_CA	Exch. basic cations (Ca++) - meq per 100g of soil - Not recorded
15_NR_CEC	CEC - meq per 100g of soil - Not recorded
15_NR_K	Exch. basic cations (K++) - meq per 100g of soil - Not recorded
15_NR_MG	Exch. basic cations (Mg++) - meq per 100g of soil - Not recorded
15_NR_NA	Exch. basic cations (Na++) - meq per 100g of soil - Not recorded
19B_NR	Calcium Carbonate (CaCO3) - Not recorded
2A1	Air-dry moisture content
3_NR	Electrical conductivity or soluble salts - Not recorded
4_NR	pH of soil - Not recorded
5_NR	Water soluble Chloride - Cl(%) - Not recorded
6Z	Organic carbon (%) - Not recorded
7_NR	Total nitrogen (%) - Not recorded
9_NR	Available P (mg/kg) - Not recorded
9A_NR	Total element - P(%) - Not recorded
P10_GRAV	Gravel (%)
P10_NR_C	Clay (%) - Not recorded
P10_NR_CS	Coarse sand (%) - Not recorded
P10_NR_FS	Fine sand (%) - Not recorded
P10_NR_Z	Silt (%) - Not recorded