**Project Name:** MEA
**Project Code:** MEA **Site ID:** H198 **Observation ID:** 1
**Agency Name:** CSIRO Division of Soils (TAS)

## Site Information

**Desc. By:** K.D. Nicholls
**Locality:** 4KM west of Carrick property "Quamby Plains":1.46CH NW of two joining fences:
**Date Desc.:** 14/05/60
**Elevation:** 165 metres
**Map Ref.:**
**Rainfall:** 700
**Northing/Long.:** 146.965277777778
**Runoff:** Slow
**Easting/Lat.:** -41.5208333333334
**Drainage:** Imperfectly drained

## Geology

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

## Land Form

**Rel/Slope Class:** No Data
**Pattern Type:** Terrace (alluvial)
**Morph. Type:** Flat
**Relief:** No Data
**Elem. Type:** No Data
**Slope Category:** Very gently sloped
**Slope:** 1.5 %
**Aspect:** 0 degrees

## Surface Soil Condition (dry):

## Erosion:

## Soil Classification

**Australian Soil Classification:**
Mottled Mesotrophic Brown Chromosol
**ASC Confidence:**
Analytical data are incomplete but reasonable confidence.
**Mapping Unit:** N/A
**Principal Profile Form:** Db3.41
**Great Soil Group:** Lateritic podzolic soil

**Site Disturbance:** Limited clearing, for example selective logging

**Vegetation:** Low Strata - Fern, 0.51-1m, Mid-dense. *Species includes - None recorded
Mid Strata - Tree, , . *Species includes - Acacia species
Tall Strata - Tree, 20.01-35m, . *Species includes - None Recorded

## Surface Coarse Fragments:

## Profile Morphology

| | | |
|---|---|---|
| A1 | 0 - 0.04 m | Very dark grey (10YR3/1-Moist); ; Loamy sand; Single grain grade of structure; Moist; Very weak consistence; Sharp, Wavy change to - |
| A1A2 | 0.04 - 0.1 m | Very dark grey (10YR3/1-Moist); , 10YR41; Sand (Heavy); Single grain grade of structure; Wet; Very weak consistence; Diffuse change to - |
| A2 | 0.1 - 0.22 m | Light brownish grey (10YR6/2-Moist); ; Sand; Single grain grade of structure; Wet; Very weak consistence; 0-2%, Gravel, coarse fragments; Diffuse change to - |
| A2A3 | 0.25 - 0.36 m | Pale brown (10YR6/3-Moist); ; Sand; Single grain grade of structure; Wet; Loose consistence; 50-90%, coarse gravelly, 20-60mm, Coal, coarse fragments; Clear change to - |
| A3 | 0.36 - 0.46 m | Yellowish brown (10YR5/4-Moist); ; Clayey sand; Single grain grade of structure; Wet; Loose consistence; 50-90%, coarse gravelly, 20-60mm, Coal, coarse fragments; Sharp change to - |
| B | 0.47 - 0.58 m | Dark yellowish brown (10YR4/6-Moist); ; Heavy clay; Weak grade of structure, 2-5 mm, Angular blocky; Moist; Weak consistence; 0-2%, medium gravelly, 6-20mm, Quartz, coarse fragments; Clear change to - |
| B | 0.58 - 0.74 m | Dark yellowish brown (10YR4/6-Moist); , 2.5YR48; Heavy clay; Weak grade of structure, 2-5 mm, Angular blocky; Moist; Weak consistence; 0-2%, Gravel, coarse fragments; Diffuse change to - |
| BC | 0.74 - 0.89 m | Dark yellowish brown (10YR4/6-Moist); , 2.5YR48; Heavy clay; Weak grade of structure, 20-50 mm, Angular blocky; Weak grade of structure, 2-5 mm, Angular blocky; Moist; Firm consistence; Diffuse change to - |
| C | 0.89 - 1.04 m | Yellowish brown (10YR5/6-Moist); , 10R36; Sandy clay loam; Weak grade of structure, 20-50 mm, Angular blocky; Moist; Weak consistence; Diffuse change to - |
| C | 1.04 - 1.17 m | Yellowish brown (10YR5/6-Moist); , 10R36; Sandy clay loam; Weak grade of structure, 20-50 mm, Angular blocky; Moist; Weak consistence; 2-10%, Gravel, coarse fragments; Diffuse change to - |
| | 1.24 - 1.4 m | Brownish yellow (10YR6/8-Moist); , 5Y71; Clayey sand; Weak consistence; |

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| | |
|---|---|
| 1.96 - 2.11 m | White (5Y8/2-Moist); , 10YR68; , 7.5YR58; Fine sandy medium clay; Weak consistence; |
| 3.3 - 3.4 m | Light grey (5Y7/1-Moist); , 10YR56; , 5YR46; Clayey sand; Weak consistence; |

## Morphological Notes

## Observation Notes

74-89CM 10YR44 COATINGS TO FACES:89-117CM 2.5Y62 COATINGS TO FACES:>89CM NOTE COARSE SAND WITH GRIT:

## Site Notes

QUAMBY

**Project Name:** MEA
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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 - 0.04 | 5.6A | 0.06A | 5.4H | 0.56 | 0.28 | 0.89 | 10.1E | | 16.4B | |
| 0.04 - 0.1 | 5.5A | 0.027A | 2.1H | 0.32 | 0.12 | 0.08 | | | | |
| 0.1 - 0.22 | 5.6A | 0.006A | 0.35H | 0.05 | 0.03 | 0.03 | | | | |
| 0.25 - 0.36 | 5.6A | 0.006A | | | | | | | | |
| 0.36 - 0.46 | 5.3A | 0.006A | | | | | | | | |
| 0.47 - 0.58 | 5.5A | 0.021A | 4.6H | 3.4 | | 0.24 | | | | |
| 0.58 - 0.74 | 5.5A | 0.068A | 4.5H | 4.2 | | 0.8 | | | | |
| 0.74 - 0.89 | 6A | 0.021A | | | | | | | | |
| 0.89 - 1.04 | 5.8A | 0.039A | 2.6H | 2.7 | | 0.28 | | | | |
| 1.04 - 1.17 | 5.4A | 0.015A | | | | | | | | |
| 1.24 - 1.4 | 5.3A | 0.012A | | | | | | | | |
| 1.96 - 2.11 | 4.9A | 0.03A | | | | | | | | |
| 3.3 - 3.4 | 4.6A | 0.179A | | | | | | | | |

| 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 - 0.04 | | 3.3D | | 0.01D | 0.156A | | | 0 | 33B | 48 | 9 | 4 |
| 0.04 - 0.1 | | 1.2D | | 0.004D | 0.055A | | | 0 | 44B | 42 | 9 | 4 |
| 0.1 - 0.22 | | 0.23D | | | 0.013A | | | 1 | 43D | 44 | 9 | 4 |
| 0.25 - 0.36 | | | | | | | | | | | | |
| 0.36 - 0.46 | | 0.23D | | | 0.015A | | | | | | | |
| 0.47 - 0.58 | | 0.94D | | | 0.075A | | | 0 | 11D | 11 | 2 | 76 |
| 0.58 - 0.74 | | 0.76D | | | 0.047A | | | 1 | 8D | 5 | 2 | 86 |
| 0.74 - 0.89 | | | | | | | | | | | | |
| 0.89 - 1.04 | | | | | | | | 0 | 38D | 9 | 4 | 49 |
| 1.04 - 1.17 | | | | | | | | | | | | |
| 1.24 - 1.4 | | | | | | | | | | | | |
| 1.96 - 2.11 | | | | | | | | | | | | |
| 3.3 - 3.4 | | | | | | | | | | | | |

| 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 - 0.04 | | | | | | | | | | |
| 0.04 - 0.1 | | | | | | | | | | |
| 0.1 - 0.22 | | | | | | | | | | |
| 0.25 - 0.36 | | | | | | | | | | |
| 0.36 - 0.46 | | | | | | | | | | |
| 0.47 - 0.58 | | | | | | | | | | |
| 0.58 - 0.74 | | | | | | | | | | |
| 0.74 - 0.89 | | | | | | | | | | |
| 0.89 - 1.04 | | | | | | | | | | |
| 1.04 - 1.17 | | | | | | | | | | |
| 1.24 - 1.4 | | | | | | | | | | |
| 1.96 - 2.11 | | | | | | | | | | |
| 3.3 - 3.4 | | | | | | | | | | |

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**Laboratory Analyses Completed for this profile**

| | |
|---|---|
| 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 |
| 15G1_H | Hydrogen Cation - meq per 100g of soil - 1M KCl Exch. Acidity By titration to pH 8.0 |
| 15J_H | Sum of Ex. cations + Ex. acidity - Sum of basic exch. cations and exch. (Hydrogen) |
| 2_LOI | Loss on Ignition (%) |
| 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 |
| 9A_HCL | Total element - P(%) - By boiling HCl |
| 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 |
| P10A1_C | Clay (%) - Pipette |
| P10A1_CS | Coarse sand (%) - Pipette |
| P10A1_FS | Fine sand (%) - Pipette |
| P10A1_Z | Silt (%) - Pipette |
| XRD_C_Gt | Geothite - X-Ray Diffraction |
| XRD_C_Is | Interstratified clay minerals - X-Ray Diffraction |
| XRD_C_Ka | Kaolin - X-Ray Diffraction |
| XRD_C_Qz | Quartz - X-Ray Diffraction |