**Project Name:** **Regional**
**Project Code:** **REG** **Site ID:** **T218** **Observation ID:** **1**
**Agency Name:** **CSIRO Division of Soils (QLD)**

## Site Information

| | | | |
|---|---|---|---|
| **Desc. By:** | G.G. Murtha | **Locality:** | On boundary between Bentley and Cordingley`s: |
| **Date Desc.:** | 05/12/73 | **Elevation:** | 15 metres |
| **Map Ref.:** | Sheet No. : 8259 1:100000 | **Rainfall:** | 1140 |
| **Northing/Long.:** | 146.953055555556 | **Runoff:** | Slow |
| **Easting/Lat.:** | -19.3858333333333 | **Drainage:** | Imperfectly drained |

## Geology

| | | | |
|---|---|---|---|
| **ExposureType:** | 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:** | Alluvial plain |
| **Morph. Type:** | Flat | **Relief:** | 0 metres |
| **Elem. Type:** | Plain | **Slope Category:** | Level |
| **Slope:** | 0 % | **Aspect:** | No Data |

**Surface Soil Condition (dry):** Hardsetting

**Erosion:**

## Soil Classification

**Australian Soil Classification:**
Bleached-Sodic Eutrophic Brown Chromosol
**ASC Confidence:**
All necessary analytical data are available.

**Mapping Unit:** N/A
**Principal Profile Form:** Dy3.42
**Great Soil Group:** Solodic soil

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

**Vegetation:** Low Strata - Tussock grass, 0.51-1m, Mid-dense. *Species includes - Heteropogon contortus
Mid Strata - Tree, 3.01-6m, Very sparse. *Species includes - None recorded
Tall Strata - Tree, 6.01-12m, Sparse. *Species includes - Eucalyptus drepanophylla, Eucalyptus polycarpa, Eucalyptus tessellaris

**Surface Coarse Fragments:** No surface coarse fragments

## Profile Morphology

| | | |
|---|---|---|
| A1 | 0 - 0.1 m | Dark grey (10YR4/1-Moist); ; Silty loam; Massive grade of structure; Dry; Very firm consistence; Gradual change to - |
| A2 | 0.1 - 0.2 m | Greyish brown (10YR5/2-Moist); Light grey (10YR7/2-Dry); ; Silty loam; Massive grade of structure; Common (1-5 per 100mm2) Fine (1-2mm) macropores, Dry; Firm consistence; Few (2 - 10 %), Ferromanganiferous, Medium (2 -6 mm), Nodules; |
| A2 | 0.2 - 0.3 m | Greyish brown (10YR5/2-Moist); Light grey (10YR7/2-Dry); ; Silty loam; Massive grade of structure; Common (1-5 per 100mm2) Fine (1-2mm) macropores, Dry; Firm consistence; Few (2 - 10 %), Ferromanganiferous, Medium (2 -6 mm), Nodules; Gradual change to - |
| A3 | 0.3 - 0.35 m | Yellowish brown (10YR5/4-Moist); Very pale brown (10YR7/4-Dry); ; Silty clay loam; Massive grade of structure; Dry; Firm consistence; Abrupt change to - |
| B2 | 0.35 - 0.5 m | Yellowish brown (10YR5/6-Moist); , 10YR62, 10-20% , 5-15mm, Faint; , 10-20% , 5-15mm, Faint; Heavy clay; Moderate grade of structure, 10-20 mm, Angular blocky; Dry; Very strong consistence; 0-2%, fine gravelly, 2-6mm, Quartz, coarse fragments; Few (2 - 10 %), Ferromanganiferous, Medium (2 -6 mm), Nodules; |
| B2 | 0.5 - 0.6 m | Yellowish brown (10YR5/6-Moist); , 10YR62, 10-20% , 5-15mm, Faint; , 10-20% , 5-15mm, Faint; Heavy clay; Moderate grade of structure, 10-20 mm, Angular blocky; Dry; Very strong consistence; 0-2%, fine gravelly, 2-6mm, Quartz, coarse fragments; Few (2 - 10 %), Ferromanganiferous, Medium (2 -6 mm), Nodules; |
| B2 | 0.6 - 0.9 m | Yellowish brown (10YR5/8-Moist); , 10YR62, 10-20% , 5-15mm, Distinct; , 10-20% , 5-15mm, Distinct; Heavy clay; Moderate grade of structure, 10-20 mm, Angular blocky; Dry; Very strong consistence; 0-2%, fine gravelly, 2-6mm, Quartz, coarse fragments; Few (2 - 10 %), Ferromanganiferous, Medium (2 -6 mm), Nodules; |
| BC | 0.9 - 1.2 m | Yellowish brown (10YR5/6-Moist); , 10YR51, 10-20% , 0-5mm, Distinct; , 10-20% , 0-5mm, Distinct; Heavy clay; Weak grade of structure, 20-50 mm, Angular blocky; Dry; Very strong consistence; Common (10 - 20 %), Ferromanganiferous, Coarse (6 - 20 mm), Concretions; |

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| | | |
|---|---|---|
| BC | 1.2 - 1.38 m | Yellowish brown (10YR5/6-Moist); , 10YR51, 10-20% , 0-5mm, Distinct; , 10-20% , 0-5mm, Distinct; Heavy clay; Weak grade of structure, 20-50 mm, Angular blocky; Dry; Very strong consistence; Common (10 - 20 %), Ferromanganiferous, Coarse (6 - 20 mm), Concretions; Gradual change to - |
| D | 1.38 - 1.5 m | Grey (10YR5/1-Moist); , 10YR43, 20-50% , 0-5mm, Faint; , 20-50% , 0-5mm, Faint; Heavy clay; Strong grade of structure, 5-10 mm, Angular blocky; Dry; Very strong consistence; Few (2 - 10 %), Ferromanganiferous, Medium (2 -6 mm), Nodules; |
| D | 1.5 - 1.8 m | Grey (10YR5/1-Moist); , 10YR43, 20-50% , 0-5mm, Faint; , 20-50% , 0-5mm, Faint; Heavy clay; Strong grade of structure, 5-10 mm, Angular blocky; Dry; Very strong consistence; Few (2 - 10 %), Ferromanganiferous, Medium (2 -6 mm), Nodules; |
| D | 1.8 - 2.05 m | Grey (10YR5/1-Moist); , 10YR43, 20-50% , 0-5mm, Faint; , 20-50% , 0-5mm, Faint; Heavy clay; Strong grade of structure, 5-10 mm, Angular blocky; Dry; Very strong consistence; Few (2 - 10 %), Ferromanganiferous, Medium (2 -6 mm), Nodules; |

## Morphological Notes

## Observation Notes

30-35CM SOME BLEACHED PATCHES THROUGHOUT:60-90CM FEW COARSE SLICKENSIDES:90-138CM MUCH FELSPATHIC FLECKING:

## Site Notes

ALLIGATOR CK

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## Laboratory Test Results:

| Depth | pH | 1:5 EC | Exchangeable Cations Ca | Mg | K | Na | Exchangeable Acidity | CEC | ECEC | ESP |
|---|---|---|---|---|---|---|---|---|---|---|
| m | | dS/m | | | | Cmol (+)/kg | | | | % |
| 0 - 0.1 | 5.8A | <0.05A | 3.5B | 1.6 | 0.55 | 0.03 | | | | |
| 0.1 - 0.2 | 5.8A | <0.05A | | | | | | | | |
| 0.2 - 0.3 | 5.6A | <0.05A | | | | | | | | |
| 0.3 - 0.35 | 5.8A | <0.05A | | | | | | | | |
| 0.35 - 0.5 | 6.2A | <0.05A | 5.6B | 5.9 | 0.11 | 0.46 | | | | |
| 0.5 - 0.6 | 6.5A | <0.05A | 5.5B | 5.6 | 0.11 | 0.72 | | | | |
| 0.6 - 0.9 | 6.9A | <0.05A | | | | | | | | |
| 0.9 - 1.2 | 7.6A | <0.05A | 5.2B | 4.9 | 0.11 | 1.1 | | | | |
| 1.2 - 1.38 | 8.3A | 0.092A | | | | | | | | |
| 1.38 - 1.5 | 8.5A | 0.151A | 7.7B | 6.3 | 0.04 | 2.7 | | | | |
| 1.5 - 1.8 | 8.5A | 0.25A | | | | | | | | |
| 1.8 - 2.05 | 8.5A | 0.339A | 7.8B | 6.8 | 0.04 | 4 | | | | |

| 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 | | 0.94D | 20.8B | 0.027A | 0.09A | 2.12A | | 0 | 13A | 41 | 32 | 12 |
| 0.1 - 0.2 | | | | | | | | | | | | |
| 0.2 - 0.3 | | | 3.6B | | | | | 0 | 13A | 41 | 30 | 16 |
| 0.3 - 0.35 | | | | | | | | | | | | |
| 0.35 - 0.5 | | | | 0.025A | | 1.35A | | 0 | 7A | 22 | 16 | 56 |
| 0.5 - 0.6 | | | | | | | | | | | | |
| 0.6 - 0.9 | | | | | | | | | | | | |
| 0.9 - 1.2 | | | | 0.024A | | 2.12A | | <2 | 25A | 24 | 21 | 33 |
| 1.2 - 1.38 | | | | | | | | | | | | |
| 1.38 - 1.5 | | | | | | | | <2 | 12A | 28 | 27 | 33 |
| 1.5 - 1.8 | | | | | | | | | | | | |
| 1.8 - 2.05 | | | | | | | | 0 | 10A | 32 | 23 | 36 |

| Depth | COLE | Gravimetric/Volumetric Water Contents Sat. | 0.05 Bar | 0.1 Bar | 0.5 Bar | 1 Bar | 5 Bar | 15 Bar | K sat | K unsat |
|---|---|---|---|---|---|---|---|---|---|---|
| m | | g/g - m3/m3 | | | | | | | mm/h | mm/h |
| 0 - 0.1 | | | | | | | | | | |
| 0.1 - 0.2 | | | | | | | | | | |
| 0.2 - 0.3 | | | | | | | | | | |
| 0.3 - 0.35 | | | | | | | | | | |
| 0.35 - 0.5 | | | | | | | | | | |
| 0.5 - 0.6 | | | | | | | | | | |
| 0.6 - 0.9 | | | | | | | | | | |
| 0.9 - 1.2 | | | | | | | | | | |
| 1.2 - 1.38 | | | | | | | | | | |
| 1.38 - 1.5 | | | | | | | | | | |
| 1.5 - 1.8 | | | | | | | | | | |
| 1.8 - 2.05 | | | | | | | | | | |

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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 |
| 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 |
| 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) |
| 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 (%) |