**Project Name:** **Regional**
**Project Code:** **REG** **Site ID:** **T387** **Observation ID:** **1**
**Agency Name:** **CSIRO Division of Soils (QLD)**

## Site Information

**Desc. By:** M.D. Laffan
**Date Desc.:** 30/03/84
**Map Ref.:** Sheet No. : 7963 1:100000
**Northing/Long.:** 145.469444444444
**Easting/Lat.:** -17.3286111111111
**Locality:**
**Elevation:** 780 metres
**Rainfall:** 1400
**Runoff:** No Data
**Drainage:** Well drained

## Geology

**ExposureType:** Existing vertical exposure
**Geol. Ref.:** PGZ
**Conf. Sub. is Parent. Mat.:** No Data
**Substrate Material:** Granite

## Land Form

**Rel/Slope Class:** Rolling hills 90-300m 10-32%
**Morph. Type:** Upper-slope
**Elem. Type:** Hillslope
**Slope:** 15 %
**Pattern Type:** No Data
**Relief:** No Data
**Slope Category:** No Data
**Aspect:** 270 degrees

## Surface Soil Condition (dry):

## Erosion:

## Soil Classification

**Australian Soil Classification:**
Haplic Dystrophic Red Kandosol
**ASC Confidence:**
All necessary analytical data are available.
**Mapping Unit:** N/A
**Principal Profile Form:** Gn2.11
**Great Soil Group:** Red earth

**Site Disturbance:** Extensive clearing, for example poisoning, ringbarking

**Vegetation:** Low Strata - Sod grass, , . *Species includes - None recorded

## Surface Coarse Fragments:

## Profile Morphology

| | | |
|---|---|---|
| A1 | 0 - 0.1 m | Dark reddish brown (5YR3/2-Moist); Mottles; Mottles; Sandy clay loam; Moderate grade of structure, 2-5 mm, Polyhedral; Smooth-ped fabric; Dry; Weak consistence; 0-2%, fine gravelly, 2-6mm, angular, undisturbed, Quartz, coarse fragments; Field pH 6 (pH meter); Common, fine (1-2mm) roots; |
| A1 | 0.1 - 0.16 m | Dark reddish brown (5YR3/2-Moist); Mottles; Mottles; Sandy clay loam; Moderate grade of structure, 2-5 mm, Polyhedral; Smooth-ped fabric; Dry; Weak consistence; 0-2%, fine gravelly, 2-6mm, angular, undisturbed, Quartz, coarse fragments; Field pH 6 (pH meter); Common, fine (1-2mm) roots; Gradual change to - |
| B21 | 0.16 - 0.2 m | Dark red (2.5YR3/6-Moist); Mottles; Mottles; Light clay; Moderate grade of structure, 10-20 mm, Angular blocky; Smooth-ped fabric; Dry; Firm consistence; 0-2%, fine gravelly, 2-6mm, angular, undisturbed, Quartz, coarse fragments; Field pH 5.5 (pH meter); Common, fine (1-2mm) roots; |
| B21 | 0.2 - 0.3 m | Dark red (2.5YR3/6-Moist); Mottles; Mottles; Light clay; Moderate grade of structure, 10-20 mm, Angular blocky; Smooth-ped fabric; Dry; Firm consistence; 0-2%, fine gravelly, 2-6mm, angular, undisturbed, Quartz, coarse fragments; Field pH 5.5 (pH meter); Common, fine (1-2mm) roots; Gradual change to - |
| B22 | 0.3 - 0.4 m | Dark red (2.5YR3/6-Moist); Mottles; Mottles; Light clay; Moderate grade of structure, Angular blocky; Massive grade of structure; Smooth-ped fabric; Moderately moist; Very firm consistence; 0-2%, fine gravelly, 2-6mm, angular, undisturbed, Quartz, coarse fragments; Few cutans, <10% of ped faces or walls coated, distinct; Field pH 5 (pH meter); Common, fine (1-2mm) roots; |
| B22 | 0.4 - 0.6 m | Dark red (2.5YR3/6-Moist); Mottles; Mottles; Light clay; Moderate grade of structure, Angular blocky; Massive grade of structure; Smooth-ped fabric; Moderately moist; Very firm consistence; 0-2%, fine gravelly, 2-6mm, angular, undisturbed, Quartz, coarse fragments; Few cutans, <10% of ped faces or walls coated, distinct; Field pH 5 (pH meter); Common, fine (1-2mm) roots; Diffuse change to - |
| B23 | 0.6 - 0.9 m | Dark red (10R3/6-Moist); Mottles; Mottles; Sandy medium clay; Moderate grade of structure, Angular blocky; Massive grade of structure; Smooth-ped fabric; Moderately moist; Firm consistence; 0-2%, fine gravelly, 2-6mm, angular, undisturbed, Quartz, coarse fragments; Common cutans, 10-50% of ped faces or walls coated, distinct; Field pH 5 (pH meter); Few, fine (1-2mm) roots; |

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| | | |
|---|---|---|
| B23 | 0.9 - 1.2 m | Dark red (10R3/6-Moist); Mottles; Mottles; Sandy medium clay; Moderate grade of structure, Angular blocky; Massive grade of structure; Smooth-ped fabric; Moderately moist; Firm consistence; 0-2%, fine gravelly, 2-6mm, angular, undisturbed, Quartz, coarse fragments; Common cutans, 10-50% of ped faces or walls coated, distinct; Field pH 5 (pH meter); Few, fine (1-2mm) roots; |
| B23 | 1.2 - 1.5 m | Dark red (10R3/6-Moist); Mottles; Mottles; Sandy medium clay; Moderate grade of structure, Angular blocky; Massive grade of structure; Smooth-ped fabric; Moderately moist; Firm consistence; 0-2%, fine gravelly, 2-6mm, angular, undisturbed, Quartz, coarse fragments; Common cutans, 10-50% of ped faces or walls coated, distinct; Field pH 5 (pH meter); Few, fine (1-2mm) roots; |

**Morphological Notes**

**Observation Notes**

SCLEROPHYLL WOODLAND NEARBY:PARENT MATERIAL VERY STRONGLY WEATHERED REDGRANITE:

**Site Notes**

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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 | 4.6D | 0.029A | 2.54H | 1.19 | 0.43 | 0.03 | 0.27F | 5.3A | 4.5F | 0.57 |
| | 6.1A | | | | | | | 9C | | 0.33 |
| 0.1 - 0.16 | 5.7A | 0.027A | | | | | | | | |
| 0.16 - 0.2 | 5.5A | 0.023A | | | | | | | | |
| 0.2 - 0.3 | 4.2D | 0.018A | 0.43H | 0.55 | 0.19 | 0.03 | 1.21F | 2.6A | 2.4F | 1.15 |
| | 5.4A | | | | | | | 8C | | 0.38 |
| 0.3 - 0.4 | 5.6A | 0.01A | | | | | | | | |
| 0.4 - 0.6 | 4.3D | 0.011A | 0.34H | 0.75 | 0.18 | 0.04 | 0.66F | 2.7A | 2F | 1.48 |
| | 5.5A | | | | | | | 5C | | 0.80 |
| 0.6 - 0.9 | 5.7A | 0.011A | | | | | | | | |
| 0.9 - 1.2 | 4.5D | 0.01A | 0.14H | 1.21 | 0.11 | 0.06 | 0.6F | 3.2A | 2.1F | 1.88 |
| | 5.6A | | | | | | | 5C | | 1.20 |
| 1.2 - 1.5 | 5.6A | 0.007A | | | | | | | | |

| 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 | | 2.93C | 10B | 0.041A | 0.11A | 0.24A | | 2 | 44A | 15 | 8 | 33 |
| 0.1 - 0.16 | | | | | | | | | | | | |
| 0.16 - 0.2 | | | | | | | | | | | | |
| 0.2 - 0.3 | | 1.24C | | 0.041A | | 0.23A | | 3 | 34A | 13 | 7 | 46 |
| 0.3 - 0.4 | | | | | | | | | | | | |
| 0.4 - 0.6 | | 1.21C | | 0.05A | | 0.2A | | 2 | 29A | 10 | 5 | 57 |
| 0.6 - 0.9 | | | | | | | | 5 | 30A | 9 | 5 | 57 |
| 0.9 - 1.2 | | | | 0.036A | | 0.18A | | 4 | 34A | 7 | 3 | 56 |
| 1.2 - 1.5 | | | | | | | | 2 | 31A | 6 | 4 | 59 |

| 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 - 0.16 | | | | | | | | | |
| 0.16 - 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 | | | | | | | | | |

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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_FE | Total element - Fe(%) - HF/HClO4 Digest |
| 12_HF_MN | Total element - Mn(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 |
| 15D1_CEC | CEC - 1M ammonium acetate at pH 7.0, pretreatment for soluble salts; manual leach |
| 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 |
| 4C1 | pH of 1:5 soil/1M potassium chloride extract - direct |
| 6B3 | Total organic carbon - high frequency induction furnace, infrared |
| 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) |
| 9H1 | Phosphate retention |
| 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 (%) |