**Project Name:** **BAGO-MARAGLE FOREST SOIL SURVEY**
**Project Code:** **BGM_FSS** **Site ID:** **0011** **Observation ID:** **1**
**Agency Name:** **CSIRO Division of Soils (ACT)**

## Site Information

**Desc. By:** N.J. McKenzie
**Date Desc.:** 12/12/95
**Map Ref.:** Sheet No. : 8526 DGPS
**Northing/Long.:** 6030482 AMG zone: 55
**Easting/Lat.:** 619318 Datum: AGD66
**Locality:**
**Elevation:** 1035 metres
**Rainfall:** No Data
**Runoff:** No Data
**Drainage:** Well drained

## Geology

**ExposureType:** No Data
**Geol. Ref.:** SGG
**Conf. Sub. is Parent. Mat.:** No Data
**Substrate Material:** Schist

## Land Form

**Rel/Slope Class:** No Data
**Morph. Type:** Mid-slope
**Elem. Type:** Hillslope
**Slope:** 29 %
**Pattern Type:** No Data
**Relief:** No Data
**Slope Category:** No Data
**Aspect:** 45 degrees

## Surface Soil Condition (dry): Firm

## Erosion:

## Soil Classification

**Australian Soil Classification:**
Acidic Mesotrophic Red Kandosol Medium Slightly gravelly Loamy Clay-loamy Very deep

**ASC Confidence:**
All necessary analytical data are available.

**Mapping Unit:** N/A
**Principal Profile Form:** Um6.13
**Great Soil Group:** Red earth

## Site Disturbance: No effective disturbance. Natural

## Vegetation:

## Surface Coarse Fragments:

## Profile Morphology

| | | |
|---|---|---|
| A1 | 0 - 0.12 m | Dark reddish brown (5YR3/2-Moist); ; Loam; Moderate grade of structure, 5-10 mm, Polyhedral; Rough-ped fabric; Moderately moist; Very weak consistence; 2-10%, fine gravelly, 2-6mm, angular, dispersed, Quartz, coarse fragments; Few cutans, <10% of ped faces or walls coated, faint; Field pH 6.5 (Raupach); Many, very fine (0-1mm) roots; Common, fine (1-2mm) roots; Few, medium (2-5mm) roots; Few, coarse (>5mm) roots; Gradual, Smooth change to - |
| B1 | 0.12 - 0.25 m | Reddish brown (2.5YR4/4-Moist); Biological mixing, 5YR32, 10-20% , Distinct; Clay loam; Moderate grade of structure, 10-20 mm, Polyhedral; Rough-ped fabric; Moist; Weak consistence; 2-10%, fine gravelly, 2-6mm, angular, dispersed, Quartz, coarse fragments; Common cutans, 10-50% of ped faces or walls coated, faint; Field pH 6.5 (Raupach); Many, very fine (0-1mm) roots; Few, fine (1-2mm) roots; Few, medium (2-5mm) roots; Few, coarse (>5mm) roots; Gradual, Smooth change to - |
| B21 | 0.25 - 0.6 m | Dark red (2.5YR3/6-Moist); ; Clay loam; Weak grade of structure, 20-50 mm, Polyhedral; Earthy fabric; Moist; Weak consistence; 2-10%, fine gravelly, 2-6mm, angular, dispersed, Quartz, coarse fragments; Common cutans, 10-50% of ped faces or walls coated, faint; Field pH 6 (Raupach); Common, very fine (0-1mm) roots; Few, fine (1-2mm) roots; Few, medium (2-5mm) roots; Few, coarse (>5mm) roots; Diffuse, Smooth change to - |
| B22 | 0.6 - 1.1 m | Dark red (2.5YR3/6-Moist); ; Clay loam; Massive grade of structure; Earthy fabric; Moist; Weak consistence; 2-10%, fine gravelly, 2-6mm, angular, dispersed, Quartz, coarse fragments; 2-10%, stony, 200-600mm, subrounded, dispersed, coarse fragments; Common cutans, 10-50% of ped faces or walls coated, faint; Field pH 6 (Raupach); Few, very fine (0-1mm) roots; Few, fine (1-2mm) roots; Few, medium (2-5mm) roots; Gradual, Smooth change to - |
| C1 | 1.1 - 2.4 m | Yellowish red (5YR5/6-Moist); ; Medium sandy clay loam; Massive grade of structure; Earthy fabric; Moist; Very weak consistence; 10-20%, fine gravelly, 2-6mm, angular, dispersed, Quartz, coarse fragments; Few cutans, <10% of ped faces or walls coated, faint; Field pH 6 (Raupach); Diffuse, Smooth change to - |
| C2 | 2.4 - 3 m | Strong brown (7.5YR5/6-Moist); ; Sandy loam; Massive grade of structure; Earthy fabric; Moist; Very weak consistence; 10-20%, fine gravelly, 2-6mm, angular, dispersed, Quartz, coarse fragments; Few cutans, <10% of ped faces or walls coated, faint; Field pH 6 (Raupach); |

## Morphological Notes

A1 Noticeable concentration of coarse sand at surface.

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**Observation Notes**

Substrate is metasediments, granodiorite colluvium.

**Site Notes**

COMP 21H,84-1,BRG 191, 238M FROM RD/CK

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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 - 0.12 | 4.76C | | 8.5H | 1.48 | 1.55 | 0.06 | 0.75J 0K | | 12.35E | |
| 0.12 - 0.25 | 4.77C | | 3.46H | 0.89 | 0.9 | 0.03 | 0.73J 0K | | 6.01E | |
| 0.25 - 0.6 | 4.44C | | 1.59H | 1.01 | 0.92 | 0.04 | 0.94J 0K | | 4.5E | |
| 0.6 - 1.1 | 4.2C | | 0.71H | 0.86 | 1.02 | 0.02 | 2.28J 0K | | 4.9E | |
| 1.1 - 2.4 | 4.24C | | 0.13H | 0.28 | 0.49 | 0.01 | 0.91J 0K | | 1.83E | |
| 2.4 - 3 | 4.29C | | 0.02H | 0.18 | 0.29 | 0 | 0.61J 0K | | 1.11E | |

| 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 - 0.12 | | 5.07B | | 392.2B | 0.22A | | 0.95 | 35.02 | | | | |
| 0.12 - 0.25 | | 1.93B | | 285.9B | 0.1A | | 1.20 | 36.41 | | | | |
| 0.25 - 0.6 | | 0.6B | | 243.6B | 0.04A | | 1.32 | 27.33 | | | | |
| 0.6 - 1.1 | | 0.03B | | 259.6B | 0.03A | | 1.15 | 31.26 | | | | |
| 1.1 - 2.4 | | 0B | | 363.4B | 0.01A | | | 15.47 | | | | |
| 2.4 - 3 | | 0B | | 298.3B | 0A | | | 7.64 | | | | |

| 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 - 0.12 | | | | | | | | | | |
| 0.12 - 0.25 | | | | | | | | | | |
| 0.25 - 0.6 | | | | | | | | | | |
| 0.6 - 1.1 | | | | | | | | | | |
| 1.1 - 2.4 | | | | | | | | | | |
| 2.4 - 3 | | | | | | | | | | |

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**Laboratory Analyses Completed for this profile**

| | |
|---|---|
| 15_NR | Sum of Ex. cations + Ex. acidity - Not recorded |
| 15E1_AL | Exchangeable Al - by compulsive exchange, no pretreatment for soluble salts |
| 15E1_CA | Exchangeable bases (Ca2+,Mg2+,Na+,K+) by compulsive exchange, no pretreatment for soluble |
| 15E1_H | Exchangeable H - by compulsive exchange, no pretreatment for soluble salts |
| 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 |
| 2A1 | Air-dry moisture content |
| 4B2 | pH of 1:5 soil/0.01M calcium chloride extract - following Method 4A1 |
| 6B2 | Total organic carbon - high frequency induction furnace, volumetric |
| 7A2 | Total nitrogen - semimicro Kjeldahl , automated colour |
| 9A3 | Total Phosphorus (ppm) - semimicro kjeldahl, automated colour |
| P10_GRAV | Gravel (%) |
| P3A1 | Bulk density - g/cm3 |