

**Project Name:** BAGO-MARAGLE FOREST SOIL SURVEY  
**Project Code:** BGM\_FSS **Site ID:** 0079 **Observation ID:** 1  
**Agency Name:** CSIRO Division of Soils (ACT)

**Site Information**

|                        |                       |                   |             |
|------------------------|-----------------------|-------------------|-------------|
| <b>Desc. By:</b>       | N.J. McKenzie         | <b>Locality:</b>  |             |
| <b>Date Desc.:</b>     | 08/01/95              | <b>Elevation:</b> | 1056 metres |
| <b>Map Ref.:</b>       | Sheet No. : 8526 DGPS | <b>Rainfall:</b>  | No Data     |
| <b>Northing/Long.:</b> | 6035536 AMG zone: 55  | <b>Runoff:</b>    | No Data     |
| <b>Easting/Lat.:</b>   | 619852 Datum: AGD66   | <b>Drainage:</b>  | No Data     |

**Geology**

|                      |         |                                    |              |
|----------------------|---------|------------------------------------|--------------|
| <b>ExposureType:</b> | No Data | <b>Conf. Sub. is Parent. Mat.:</b> | No Data      |
| <b>Geol. Ref.:</b>   | SGG     | <b>Substrate Material:</b>         | Granodiorite |

**Land Form**

|                         |             |                        |             |
|-------------------------|-------------|------------------------|-------------|
| <b>Rel/Slope Class:</b> | No Data     | <b>Pattern Type:</b>   | No Data     |
| <b>Morph. Type:</b>     | Upper-slope | <b>Relief:</b>         | No Data     |
| <b>Elem. Type:</b>      | No Data     | <b>Slope Category:</b> | No Data     |
| <b>Slope:</b>           | 28 %        | <b>Aspect:</b>         | 315 degrees |

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

**Erosion:**

**Soil Classification**

|   |                                |        |
|---|--------------------------------|--------|
| <b>Australian Soil Classification:</b>  | <b>Mapping Unit:</b>           | N/A    |
| Haplic Eutrophic Red Dermosol Medium Non-gravelly Clay-loamy Clayey Very deep | <b>Principal Profile Form:</b> | Gn4.11 |

|  |                          |     |
|--|--------------------------|-----|
| <b>ASC Confidence:</b>                       | <b>Great Soil Group:</b> | N/A |
| All necessary analytical data are available. |                          |     |

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

**Vegetation:**

**Surface Coarse Fragments:**

**Profile Morphology**

|     |               |  |
|-----|---------------|--|
| O1  | 0 - 0.02 m    | Organic Layer; ;   |
| A11 | 0.02 - 0.14 m | Dark reddish brown (5YR3/2-Moist); ; Clay loam; Moderate grade of structure, 2-5 mm, Granular; Moderately moist; Weak consistence; 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; Common, medium (2-5mm) roots; Gradual, Smooth change to -  |
| A12 | 0.14 - 0.28 m | Dark reddish brown (5YR3/3-Moist); ; Clay loam; Moderate grade of structure, 2-5 mm, Granular; Moderately moist; Weak consistence; 2-10%, cobbly, 60-200mm, subangular, dispersed, Granodiorite, coarse fragments; Common cutans, 10-50% of ped faces or walls coated, faint; Field pH 7 (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 -   |
| B1  | 0.28 - 0.52 m | Dark reddish brown (2.5YR3/4-Moist); ; Light clay; Moderate grade of structure, 2-5 mm, Granular; 10-20 mm, Polyhedral; Moderately moist; Weak consistence; Common cutans, 10-50% of ped faces or walls coated, faint; Field pH 7 (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 -  |
| B21 | 0.52 - 0.82 m | Dark red (2.5YR3/5-Moist); ; Light medium clay; Moderate grade of structure, 20-50 mm, Polyhedral; 10-20 mm, Polyhedral; Moderately moist; Firm consistence; 2-10%, coarse gravelly, 20-60mm, subangular platy, dispersed, Granodiorite, coarse fragments; 2-10%, coarse gravelly, 20-60mm, subangular, coarse fragments; Common cutans, 10-50% of ped faces or walls coated, faint; Field pH 6.5 (Raupach); Few, very fine (0-1mm) roots; Few, fine (1-2mm) roots; Few, medium (2-5mm) roots; Few, coarse (>5mm) roots; Diffuse, Smooth change to - |
| B22 | 0.82 - 1.42 m | Dark red (2.5YR3/5-Moist); ; Medium clay; Weak grade of structure, 20-50 mm, Polyhedral; Moderately moist; Firm consistence; 2-10%, cobbly, 60-200mm, subangular, dispersed, Granodiorite, coarse fragments; 2-10%, cobbly, 60-200mm, angular platy, coarse fragments; Common cutans, 10-50% of ped faces or walls coated, faint; Field pH 6.5 (Raupach); Few, very fine (0-1mm) roots; Gradual, Smooth change to -  |
| B31 | 1.42 - 2.12 m | Red (2.5YR4/6-Moist); Substrate influence, 7.5YR66, 20-50% , Distinct; Medium clay; Weak grade of structure, 10-20 mm, Polyhedral; Moderately moist; Firm consistence; Few cutans, <10% of ped faces or walls coated, faint; Field pH 6 (Raupach); Gradual, Smooth change to -   |

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B32      2.12 - 3.02 m      Yellowish red (5YR5/6-Moist); Substrate influence, 10YR62, 20-50% , Prominent; Medium clay;  
Weak grade of structure, 10-20 mm, Polyhedral; Dry; Firm consistence; Few cutans, <10% of  
ped faces or walls coated, faint; Field pH 6 (Raupach);

**Morphological Notes**

A11      Very organic, soft, low density layer.  
A12      Gradational from layer 1.

B1      Soft, very fine structure.

B21      Basalt - coarse fragments and ground material. Density increases and softness is less.  
B31      Pedality may be moderate.

**Observation Notes**

**Site Notes**

COMP 10H, 65069-1, BRG69 800M

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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 - 0.02    |       |        |        |                 |           |             |                      |     |        |     |
| 0.02 - 0.14 | 5.39C |        | 23.82H | 2.68            | 1.58      | 0.05        | 0.29J<br>0K          |     | 28.41E |     |
| 0.14 - 0.28 | 5.51C |        | 14.28H | 1.89            | 1.75      | 0.05        | 0.06J<br>0K          |     | 18.03E |     |
| 0.28 - 0.52 | 5.51C |        | 7.77H  | 1.15            | 1.39      | 0.04        | 0.03J<br>0K          |     | 10.37E |     |
| 0.52 - 0.82 | 5.17C |        | 5.04H  | 1.6             | 0.91      | 0.03        | 0.21J<br>0K          |     | 7.77E  |     |
| 0.82 - 1.42 | 5.32C |        | 5.16H  | 1.79            | 1.03      | 0.03        | 0.03J<br>0K          |     | 8.04E  |     |
| 1.42 - 2.12 | 4.94C |        | 3.87H  | 2.54            | 0.51      | 0.06        | 0.09J<br>0.04K       |     | 7.11E  |     |
| 2.12 - 3.02 | 4.77C |        | 2.91H  | 2.58            | 0.14      | 0.09        | 0.13J<br>0K          |     | 5.85E  |     |

| Depth       | CaCO3 | Organic C | Avail. P | Total P | Total N | Total K | Bulk Density | Particle Size |    | Analysis |           |
|-------------|-------|-----------|----------|---------|---------|---------|--------------|---------------|----|----------|-----------|
| m           | %     | %         | mg/kg    | %       | %       | %       | Mg/m3        | GV            | CS | FS %     | Silt Clay |
| 0 - 0.02    |       |           |          |         |         |         |              |               |    |          |           |
| 0.02 - 0.14 |       | 8.12B     |          | 1407.6B | 0.34A   |         | 0.65         | 32.86         |    |          |           |
| 0.14 - 0.28 |       | 3.59B     |          | 1173.6B | 0.2A    |         | 0.89         | 30.44         |    |          |           |
| 0.28 - 0.52 |       | 1.64B     |          | 809.9B  | 0.08A   |         | 0.91         | 28.53         |    |          |           |
| 0.52 - 0.82 |       | 1.17B     |          | 580.7B  | 0.04A   |         | 1.31         | 38.97         |    |          |           |
| 0.82 - 1.42 |       | 0.65B     |          | 464.5B  | 0.03A   |         |              | 35.63         |    |          |           |
| 1.42 - 2.12 |       | 0.21B     |          | 352.6B  | 0.02A   |         |              | 31.83         |    |          |           |
| 2.12 - 3.02 |       | 0.19B     |          | 317.6B  | 0.01A   |         |              | 30.25         |    |          |           |

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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  |