

Project Name: BAGO-MARAGLE FOREST SOIL SURVEY
Project Code: BGM_FSS **Site ID:** 0064 **Observation ID:** 1
Agency Name: CSIRO Division of Soils (ACT)

Site Information

| | | | |
|------------------------|-----------------------|-------------------|---------------------|
| Desc. By: | N.J. McKenzie | Locality: | |
| Date Desc.: | 12/02/96 | Elevation: | 1159 metres |
| Map Ref.: | Sheet No. : 8526 DGPS | Rainfall: | No Data |
| Northing/Long.: | 6044478 AMG zone: 55 | Runoff: | No Data |
| Easting/Lat.: | 614753 Datum: AGD66 | Drainage: | Imperfectly drained |

Geology

| | | | |
|----------------------|---------|------------------------------------|----------|
| ExposureType: | No Data | Conf. Sub. is Parent. Mat.: | Probable |
| Geol. Ref.: | Tb | Substrate Material: | Basalt |

Land Form

| | | | |
|-------------------------|---------|------------------------|------------|
| Rel/Slope Class: | No Data | Pattern Type: | No Data |
| Morph. Type: | Crest | Relief: | No Data |
| Elem. Type: | No Data | Slope Category: | No Data |
| Slope: | 10 % | Aspect: | 90 degrees |

Surface Soil Condition (dry):

Erosion:

Soil Classification

| | | | |
|---|--|--------------------------------|-----|
| Australian Soil Classification: | | Mapping Unit: | N/A |
| Acidic Mesotrophic Red Dermosol Thin Non-gravelly Clayey Clayey Very deep | | Principal Profile Form: | N/A |

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

Site Disturbance:

Vegetation:

Surface Coarse Fragments:

Profile Morphology

| | | |
|------|---------------|--|
| A1 | 0 - 0.08 m | Dark reddish brown (5YR3/2-Moist); ; Light clay; Moderate grade of structure, 20-50 mm, Polyhedral; 10-20 mm, Polyhedral; Rough-ped fabric; Dry; Firm consistence; Common cutans, 10-50% of ped faces or walls coated, faint; Field pH 6 (Raupach); Many, very fine (0-1mm) roots; Few, fine (1-2mm) roots; Few, medium (2-5mm) roots; Few, coarse (>5mm) roots; Clear, Smooth change to - |
| B21 | 0.08 - 0.25 m | Reddish brown (5YR4/4-Moist); Biological mixing, 5YR32, 2-10% , Distinct; Light clay; Moderate grade of structure, 10-20 mm, Polyhedral; Rough-ped fabric; Moderately moist; Weak consistence; Few cutans, <10% of ped faces or walls coated, faint; Field pH 6 (Raupach); Common, very fine (0-1mm) roots; Few, fine (1-2mm) roots; Common, medium (2-5mm) roots; Few, coarse (>5mm) roots; Gradual, Smooth change to - |
| B21 | 0.25 - 0.42 m | Yellowish red (5YR4/6-Moist); ; Clay loam; Weak grade of structure, 10-20 mm, Polyhedral; Rough-ped fabric; Moderately moist; Weak consistence; Few cutans, <10% of ped faces or walls coated, faint; Field pH 6 (Raupach); Common, very fine (0-1mm) roots; Few, fine (1-2mm) roots; Common, medium (2-5mm) roots; Few, coarse (>5mm) roots; Gradual, Smooth change to - |
| B22 | 0.42 - 0.72 m | Yellowish red (5YR4/6-Moist); ; Clay loam; Weak grade of structure, 10-20 mm, Polyhedral; Earthy fabric; Moderately moist; Very weak consistence; 0-2%, coarse gravelly, 20-60mm, rounded tabular, dispersed, Basalt, coarse fragments; Few cutans, <10% of ped faces or walls coated, faint; Field pH 5.5 (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 - |
| B23 | 0.72 - 1.2 m | Yellowish red (5YR4/5-Moist); ; Clay loam; Massive grade of structure; Earthy fabric; Moderately moist; Weak consistence; Few cutans, <10% of ped faces or walls coated, faint; Field pH 5.5 (Raupach); Few, very fine (0-1mm) roots; Diffuse, Smooth change to - |
| B31g | 1.2 - 1.75 m | Light grey (10YR7/1-Moist); Substrate influence, 5YR56, 0-2% , Distinct; Rough-ped fabric; Moderately moist; Firm consistence; Field pH 5 (Raupach); Few, very fine (0-1mm) roots; Abrupt, Smooth change to - |
| B32 | 1.75 - 2.4 m | Light yellowish brown (10YR6/4-Moist); Substrate influence, 7.5YR56, 20-50% , Distinct; Substrate influence, 10YR84, 10-20% , Distinct; Clay loam; Earthy fabric; Moderately moist; Firm consistence; Few cutans, <10% of ped faces or walls coated, faint; Field pH 5 (Raupach); Gradual, Smooth change to - |

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B33 2.4 - 2.8 m Light grey (10YR7/2-Moist); Substrate influence, 7.5YR58, 10-20% , Prominent; Substrate influence, 10YR66, 10-20% , Distinct; Light clay; Rough-ped fabric; Moist; Weak consistence; Few cutans, <10% of ped faces or walls coated, faint; Field pH 5 (Raupach);

Morphological Notes

A1 Thin A1

B21 quartz grains evident - fabric similar to a soil on granodiorite.

B22 Quartz grains

B23 Quartz grains

B31g Gleyed silty layer with fine uncoated quartz - lateral flow or different PM?
B32 Mottled, clayier than above quartz not evident.

B33 Much wetter - mottled and grades into the basalt.

Observation Notes

Site Notes

COMP 118H,6372-1,BRG 27D,160M FR6449-1

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Laboratory Test Results:

| Depth m | pH | 1:5 EC dS/m | Exchangeable Cations | | | | Exchangeable Acidity | CEC | ECEC | ESP % |
|-------------|-------|----------------|----------------------|------|------|-------------------|-------------------------|-----|--------|----------|
| | | | Ca | Mg | K | Na Cmol (+)/kg | | | | |
| 0 - 0.08 | 4.56C | | 8.21H | 2.13 | 1.27 | 0.12 | 2.26J 0K | | 13.98E | |
| 0.08 - 0.25 | 4.28C | | 2.61H | 1.35 | 1.02 | 0.06 | 2.99J 0K | | 8.03E | |
| 0.25 - 0.42 | 3.97C | | 0.43H | 0.66 | 0.74 | 0.07 | 5.16J 0K | | 7.06E | |
| 0.42 - 0.72 | 3.96C | | 0.64H | 1.04 | 0.77 | 0.05 | 5.61J 0K | | 8.11E | |
| 0.72 - 1.2 | 3.94C | | 0.04H | 0.79 | 0.63 | 0.05 | 5.38J 0K | | 6.89E | |
| 1.2 - 1.75 | 3.77C | | 0.07H | 0.53 | 0.26 | 0.09 | 7.77J 0K | | 8.73E | |
| 1.75 - 2.4 | 3.64C | | 0H | 0.72 | 2.44 | 0.16 | 23.23J 0K | | 26.56E | |
| 2.4 - 2.8 | 3.75C | | 0H | 0.39 | 0.27 | 0.22 | 12.49J 0K | | 13.37E | |

| Depth | CaCO3 | Organic | Avail. | Total | Total | Total | Bulk | Particle | | Size | Analysis | |
|-------------|-------|---------|--------|---------|-------|-------|-------|----------|----|------|----------|----|
| | % | C | P | P | N | K | | Density | GV | | CS | FS |
| m | | % | mg/kg | % | % | % | Mg/m3 | | | % | | |
| 0 - 0.08 | | 5.47B | | 1254B | 0.21A | | 0.98 | 30.78 | | | | |
| 0.08 - 0.25 | | 1.75B | | 1075.8B | 0.09A | | 1.17 | 27.81 | | | | |
| 0.25 - 0.42 | | 0.84B | | 1073.7B | 0.06A | | | 23.96 | | | | |
| 0.42 - 0.72 | | 0.74B | | 1422.7B | 0.06A | | 1.22 | 24.42 | | | | |
| 0.72 - 1.2 | | 0.32B | | 1312.1B | 0.04A | | 1.39 | 29.99 | | | | |
| 1.2 - 1.75 | | 0.33B | | 431.9B | 0.02A | | | 40.53 | | | | |
| 1.75 - 2.4 | | 0.26B | | 1664.5B | 0A | | | 26.18 | | | | |
| 2.4 - 2.8 | | 0.26B | | 2743.4B | 0A | | | 31.49 | | | | |

[illegible]

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Laboratory Analyses Completed for this profile

| | |
|----------|---|
| 13C1_AL | Citrate/dithionite-extractable iron, aluminium, Manganese and Silicon |
| 13C1_FE | Citrate/dithionite-extractable iron, aluminium, Manganese and Silicon |
| 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 |