

**Project Name:** BAGO-MARAGLE FOREST SOIL SURVEY  
**Project Code:** BGM\_FSS **Site ID:** 0081 **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>	12/02/96	<b>Elevation:</b>	1191 metres
<b>Map Ref.:</b>	Sheet No. : 8526 DGPS	<b>Rainfall:</b>	No Data
<b>Northing/Long.:</b>	6043873 AMG zone: 55	<b>Runoff:</b>	No Data
<b>Easting/Lat.:</b>	614908 Datum: AGD66	<b>Drainage:</b>	Moderately well drained

**Geology**

<b>ExposureType:</b>	No Data	<b>Conf. Sub. is Parent. Mat.:</b>	Probable
<b>Geol. Ref.:</b>	TB	<b>Substrate Material:</b>	Basalt

**Land Form**

<b>Rel/Slope Class:</b>	No Data	<b>Pattern Type:</b>	No Data
<b>Morph. Type:</b>	Open depression (vale)	<b>Relief:</b>	No Data
<b>Elem. Type:</b>	Drainage depression	<b>Slope Category:</b>	No Data
<b>Slope:</b>	5 %	<b>Aspect:</b>	90 degrees

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

**Erosion:**

**Soil Classification**

<b>Australian Soil Classification:</b>	<b>Mapping Unit:</b>	N/A
Acidic Mesotrophic Red Ferrosol Medium Slightly gravelly Clayey Clayey Very deep	<b>Principal Profile Form:</b>	Uf6.12

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

**Site Disturbance:** No effective disturbance other than grazing by hoofed animals

**Vegetation:**

**Surface Coarse Fragments:**

**Profile Morphology**

O1	0 - 0.01 m	Organic Layer; ;
A1	0.01 - 0.15 m	Dark reddish brown (5YR3/3-Moist); ; Light clay; Strong grade of structure, 5-10 mm, Polyhedral; Rough-ped fabric; Moderately moist; Weak consistence; 2-10%, medium gravelly, 6-20mm, subrounded tabular, dispersed, Basalt, 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; Clear, Smooth change
B21	0.15 - 0.32 m	Dark reddish brown (5YR3/4-Moist); Biological mixing, 5YR33, 2-10% , Faint; Light clay; Moderate grade of structure, 10-20 mm, Granular; Earthy fabric; Moderately moist; Weak consistence; 2-10%, medium gravelly, 6-20mm, subrounded tabular, dispersed, Basalt, 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; Gradual, Smooth change to -
B22	0.32 - 0.63 m	Red (2.5YR4/6-Moist); ; Clay loam; Weak grade of structure, 10-20 mm, Polyhedral; Earthy fabric; Moderately moist; Weak consistence; 2-10%, medium gravelly, 6-20mm, subrounded tabular, dispersed, Basalt, coarse fragments; Few cutans, <10% of ped faces or walls coated, faint; Field pH 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 -
B23	0.63 - 1.31 m	Yellowish red (5YR4/6-Moist); ; Light clay; Moderate grade of structure, 10-20 mm, Polyhedral; Rough-ped fabric; Moderately moist; Firm consistence; 10-20%, medium gravelly, 6-20mm, rounded, dispersed, Basalt, coarse fragments; Common cutans, 10-50% of ped faces or walls coated, faint; Field pH 5 (Raupach); Few, very fine (0-1mm) roots; Few, fine (1-2mm) roots; Few, medium (2-5mm) roots; Few, coarse (>5mm) roots; Gradual, Smooth change to -
B3	1.31 - 2.11 m	Strong brown (7.5YR4/6-Moist); Substrate influence, 7.5YR68, 20-50% , Distinct; Substrate influence, 7.5YR30, 10-20% , Distinct; Light clay; Moderate grade of structure, 5-10 mm, Polyhedral; Rough-ped fabric; Moderately moist; Firm consistence; Few cutans, <10% of ped faces or walls coated, faint; Common (10 - 20 %), Ferromanganiferous, Coarse (6 - 20 mm), Veins, strong, segregations;Common (10 - 20 %), Ferromanganiferous, Medium (2 - 6 mm), Veins, strong, segregations;Common (10 - 20 %), Ferromanganiferous, Coarse (6 - 20 mm), Nodules, strong, segregations;Common (10 - 20 %), Ferromanganiferous, Medium (2 - 6 mm), Nodules, strong, segregations;Common (10 - 20 %), Ferromanganiferous, Coarse (6 - 20 mm), Concretions, strong, segregations;Field pH 4.5 (Raupach); Diffuse, Smooth change to -

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C      2.11 - 3.01 m      Brown (10YR4/3-Moist); Substrate influence, 10YR64, 10-20% , Distinct; Substrate influence, 10YR21, 10-20% , Distinct; Light clay; Moderately moist; Firm consistence; Few (2 - 10 %), Ferruginous, Coarse (6 - 20 mm), , strong, segregations;Common (10 - 20 %), Ferromanganiferous, Medium (2 -6 mm), , strong, segregations;Field pH 4.5 (Raupach);

**Morphological Notes**

A1      Strong structure.

B21      Structure grade diminishes.

B22      Similar earthy feel to soils on SGG but no quartz or mica.

B23      Fine gravelly basalt present. Yellower than layer 3.

B3      Concretions but still a B3 despite weathering basalt.  
C      Dark brown weathering basalt. Pale when dry.

**Observation Notes**

Site is on a hillcrest but within an open depression.

**Site Notes**

COMP 118H,6728-1,BRG154 620M FR 6372-1

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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 - 0.01										
0.01 - 0.15	4.88C		13.83H	2.82	1.14	0.07	1.41J 0K		19.28E	
0.15 - 0.32	4.72C		2.75H	1.68	0.71	0.08	1.36J 0K		6.58E	
0.32 - 0.63	4.45C		1.83H	2.11	0.38	0.09	1.57J 0K		5.98E	
0.63 - 1.31	4.58C		2.2H	2.45	0.5	0.26	0.38J 0K		5.78E	
1.31 - 2.11	4.61C		1.29H	1.79	0.33	0.3	0.27J 0K		3.98E	
2.11 - 3.01	4.17C		0.04H	1.26	0.16	0.29	1.7J 0K		3.45E	

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 - 0.01												
0.01 - 0.15		8.44B		2920.7B	0.34A		0.72	37.36				
0.15 - 0.32		2.67B		1392.9B	0.14A		0.83	36.05				
0.32 - 0.63		1.05B		1567.8B	0.04A		0.86	34.12				
0.63 - 1.31		0.43B		2835.9B	0A		1.23	43.27				
1.31 - 2.11		0.23B		3621.6B	0A			39.26				
2.11 - 3.01				3222B	0A			30.77				

[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 (%)
P10_S_0.48	0.48 micron (cumulative %) - Sedigraph
P10_S_1	1 micron (cumulative %) - Sedigraph
P10_S_1000	1000 micron (cumulative %) - Sedigraph
P10_S_125	125 micron (cumulative %) - Sedigraph
P10_S_15.6	15.6 micron (cumulative %) - Sedigraph
P10_S_2	2 micron (cumulative %) - Sedigraph
P10_S_20	20 micron (cumulative %) - Sedigraph
P10_S_2000	2000 micron (cumulative %) - Sedigraph
P10_S_250	250 micron (cumulative %) - Sedigraph
P10_S_3.9	3.9 micron (cumulative %) - Sedigraph
P10_S_31.2	31.2 micron (cumulative %) - Sedigraph
P10_S_500	500 micron (cumulative %) - Sedigraph
P10_S_53	53 micron (cumulative %) - Sedigraph
P10_S_63	63 micron (cumulative %) - Sedigraph
P10_S_7.8	7.8 micron (cumulative %) - Sedigraph
P3A1	Bulk density - g/cm3