

Project Name: BAGO-MARAGLE ESM
Project Code: BGM_ESM **Site ID:** 1020 **Observation ID:** 1
Agency Name: CSIRO Division of Soils (ACT)

Site Information

Desc. By: P. Ryan	Locality:
Date Desc.: 04/04/95	Elevation: 1173 metres
Map Ref.: Sheet No. : 8526 DGPS	Rainfall: No Data
Northing/Long.: 6053686 AMG zone: 55	Runoff: Slow
Easting/Lat.: 609177 Datum: AGD66	Drainage: Well drained

Geology

ExposureType: Soil pit	Conf. Sub. is Parent. Mat.: No Data
Geol. Ref.: TB	Substrate Material: Tuff

Land Form

Rel/Slope Class: No Data	Pattern Type: No Data
Morph. Type: Upper-slope	Relief: No Data
Elem. Type: Hillslope	Slope Category: No Data
Slope: 12 %	Aspect: 135 degrees

Surface Soil Condition (dry): Self-mulching

Erosion:

Soil Classification

Australian Soil Classification:	Mapping Unit: N/A
Humose-Acidic Mesotrophic Red Dermosol Medium Non-gravelly Clay-loamy Clayey Very deep	Principal Profile Form: Gn3.11
ASC Confidence:	Great Soil Group: Krasnozem

All necessary analytical data are available.

Site Disturbance: No effective disturbance. Natural

Vegetation:

Surface Coarse Fragments:

Profile Morphology

O1	0 - 0.01 m	Organic Layer; ;
A11	0.01 - 0.06 m	Black (5YR2.5/1-Moist); ; Loam; Weak grade of structure, 2-5 mm, Granular; Rough-ped fabric; Dry; Very weak consistence; Field pH 6 (pH meter); Many, very fine (0-1mm) roots; Common, fine (1-2mm) roots; Common, medium (2-5mm) roots; Few, coarse (>5mm) roots; Abrupt, Smooth change to -
A12p	0.06 - 0.16 m	Dark reddish brown (5YR3/2-Moist); Mechanical, 2-10% , Distinct; Biological mixing, 2-10% , Faint; Clay loam; Moderate grade of structure, 10-20 mm, Subangular blocky; 100-200 mm, Lenticular; Rough-ped fabric; Dry; Firm consistence; Few cutans, <10% of ped faces or walls coated, faint; Field pH 6 (pH meter); Common, very fine (0-1mm) roots; Few, fine (1-2mm) roots; Common, medium (2-5mm) roots; Abrupt, Irregular change to -
A3	0.16 - 0.28 m	Dark reddish brown (5YR3/3-Moist); Biological mixing, 2-10% , Faint; Clay loam; Moderate grade of structure, 10-20 mm, Subangular blocky; 100-200 mm, Lenticular; Smooth-ped fabric; Dry; Firm consistence; 0-2%, coarse gravelly, 20-60mm, subangular tabular, dispersed, Basalt, coarse fragments; Few cutans, <10% of ped faces or walls coated, faint; Field pH 5.5 (pH meter); Few, very fine (0-1mm) roots; Common, fine (1-2mm) roots; Common, medium (2-5mm) roots; Few, coarse (>5mm) roots; Clear, Wavy change to -
B1	0.28 - 0.44 m	Dark reddish brown (5YR3/3-Moist); Biological mixing, 2-10% , Faint; Clay loam; Moderate grade of structure, 10-20 mm, Subangular blocky; 100-200 mm, Lenticular; Smooth-ped fabric; Moderately moist; Firm consistence; 0-2%, coarse gravelly, 20-60mm, subangular tabular, dispersed, Basalt, coarse fragments; Few cutans, <10% of ped faces or walls coated, faint; Field pH 5.5 (pH meter); Few, very fine (0-1mm) roots; Few, fine (1-2mm) roots; Few, medium (2-5mm) roots; Gradual, Wavy change to -
B21	0.44 - 1.41 m	Dark reddish brown (2.5YR3/4-Moist); Biological mixing, 2-10% , Faint; Clay loam; Strong grade of structure, 10-20 mm, Polyhedral; 100-200 mm, Lenticular; Smooth-ped fabric; Moderately moist; Firm consistence; 0-2%, coarse gravelly, 20-60mm, subangular tabular, dispersed, Basalt, coarse fragments; Common cutans, 10-50% of ped faces or walls coated, distinct; Field pH 5 (pH meter); Few, very fine (0-1mm) roots; Diffuse change to -
B22	1.41 - 1.96 m	Yellowish red (5YR4/6-Moist); ; Silty clay; Smooth-ped fabric; Moderately moist; 0-2%, coarse gravelly, 20-60mm, subangular tabular, dispersed, Basalt, coarse fragments; Field pH 5 (pH meter); Clear change to -

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- B31 1.96 - 2.76 m Strong brown (7.5YR4/6-Moist); ; Clay loam; Moderately moist; 2-10%, medium gravelly, 6-20mm, subrounded, dispersed, Tuff, coarse fragments; Few (2 - 10 %), Manganiferous, Medium (2 -6 mm), Fragments, strong, segregations; Few (2 - 10 %), Manganiferous, Medium (2 -6 mm), Concretions, strong, segregations; Field pH 4.5 (pH meter); Clear change to -
- B32 2.76 - 2.91 m Strong brown (7.5YR4/6-Moist); ; Clay loam; Moderately moist; 2-10%, medium gravelly, 6-20mm, subangular, dispersed, Tuff, coarse fragments; Few (2 - 10 %), Manganiferous, Medium (2 -6 mm), Fragments, strong, segregations; Few (2 - 10 %), Manganiferous, Medium (2 -6 mm), Concretions, strong, segregations; Field pH 4.5 (pH meter);

Morphological Notes

- B32 Dense layer could not be augered. Course fragments has phenocrysts of feldspar and vesicles. RM tuffaceous or trachyte.

Observation Notes

PGP centre peg 2m north east of pit.

Site Notes

PGP4, BAGO S.F., COMPT 29

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Laboratory Test Results:

Depth m	pH	1:5 EC dS/m	Exchangeable Cations			Exchangeable Acidity Na Cmol (+)/kg	CEC	ECEC	ESP %
			Ca	Mg	K				
0.01 - 0.09	4.92C 5.48A		29.09H	10.34	2.63	0.11	0.98J 0K	43.15E	
0.06 - 0.16	4.91C 5.76A		9.41H	3.11	2.41	0.04	1.3J 0K	16.27E	
0.16 - 0.28	4.79C 5.58A		7.57H	2.5	2.25	0.06	1.83J 0K	14.2E	
0.31 - 0.39	4.56C 5.49A		4.13H	1.92	1.24	0.06	1.9J 0K	9.25E	
0.61 - 0.81	4.13C 5.21A		1.12H	1.06	0.85	0.04	5.8J 0K	8.86E	
1.61 - 1.81	3.94C 4.84A		0.15H	0.34	0.69	0.05	8.74J 0K	9.97E	
2.21 - 2.51	3.84C 4.77A		0.14H	1.06	0.54	0.06	23.13J 0K	24.94E	
2.76 - 2.91	3.76C 4.48A		0.1H	0.92	0.48	0.11	35.23J 0K	36.85E	

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			%		
0.01 - 0.09		17.57B		1849.9B	0.88A		0.61		8.16			
0.06 - 0.16		5.36B		534.3B	0.28A		0.75		19.87			
0.16 - 0.28		3.96B		412.9B	0.25A		1.08		37.34			
0.31 - 0.39		2.41B		968.1B	0.13A		1.12		14.54			
0.61 - 0.81		0.52B		687B	0.06A		1.15		32.61			
1.61 - 1.81		0.46B		720.7B	0.06A				40.94			
2.21 - 2.51		0.19B		2343.5B	0.02A				26.87			
2.76 - 2.91		0.25B		2636.7B	0.01A				21.11			

[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
4A1	pH of 1:5 soil/water suspension
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