Project Name: CAN
Project Code: CAN **Site ID:** C616 **Observation ID:** 1
Agency Name: CSIRO Division of Soils (ACT)

Site Information

Desc. By:	J.R. Sleeman	**Locality:**	Csiro Ginninderra Farm
Date Desc.:	09/07/66	**Elevation:**	650 metres
Map Ref.:	Sheet No. : 8727 1:100000	**Rainfall:**	580
Northing/Long.:	149.083333333333	**Runoff:**	Slow
Easting/Lat.:	-35.2	**Drainage:**	Poorly drained

Geology

ExposureType:	Soil pit	**Conf. Sub. is Parent. Mat.:**	No Data
Geol. Ref.:	No Data	**Substrate Material:**	Slightly porous, Unconsolidated material (unidentified)

Land Form

Rel/Slope Class:	Undulating rises 9-30m 3-10%	**Pattern Type:**	Rises
Morph. Type:	Mid-slope	**Relief:**	No Data
Elem. Type:	Hillslope	**Slope Category:**	Very gently sloped
Slope:	2 %	**Aspect:**	0 degrees

Surface Soil Condition (dry):

Erosion:

Soil Classification

Australian Soil Classification:
Bleached-Mottled Eutrophic Brown Chromosol
ASC Confidence:
All necessary analytical data are available.

Mapping Unit: N/A
Principal Profile Form: Dy3.22
Great Soil Group: Yellow podzolic soil

Site Disturbance: Complete clearing. Pasture, native or improved, cultivated at some stage

Vegetation: Low Strata - Sod grass, , Mid-dense. *Species includes - None recorded
Tall Strata - Tree, , Mid-dense. *Species includes - None Recorded

Surface Coarse Fragments:

Profile Morphology

A11	0 - 0.05 m	Dark greyish brown (10YR4/2-Moist); Light brownish grey (10YR6/2-Dry); ; Fine sandy loam; Massive grade of structure; Moist; Weak consistence; Field pH 6.2 (pH meter);
A12	0.05 - 0.1 m	Dark greyish brown (2.5Y4/2-Moist); Light brownish grey (2.5Y6/2-Dry); ; Fine sandy loam; Massive grade of structure; Moist; Weak consistence; 0-2%, medium gravelly, 6-20mm, rounded, dispersed, Quartz, coarse fragments; Very few (0 - 2 %), Ferruginous, Fine (0 - 2 mm), Nodules; Field pH 6.1 (pH meter);
	0.1 - 0.15 m	Dark greyish brown (2.5Y4/2-Moist); Light brownish grey (2.5Y6/2-Dry); ; Fine sandy loam; Massive grade of structure; Weak consistence; 0-2%, fine gravelly, 2-6mm, dispersed, Quartz, coarse fragments; Very few (0 - 2 %), Ferruginous, Fine (0 - 2 mm), Nodules; Field pH 6.2 (pH meter); Abrupt change to -
A21	0.15 - 0.2 m	Light yellowish brown (10YR6/4-Moist); Very pale brown (10YR8/4-Dry); ; Loamy fine sand; Massive grade of structure; Moist; Weak consistence; 0-2%, fine gravelly, 2-6mm, dispersed, Quartz, coarse fragments; Very few (0 - 2 %), Ferruginous, Fine (0 - 2 mm), Nodules; Field pH 6.3 (pH meter);
	0.2 - 0.25 m	Light yellowish brown (10YR6/4-Moist); Very pale brown (10YR8/4-Dry); ; Loamy fine sand; Massive grade of structure; Weak consistence; 0-2%, fine gravelly, 2-6mm, dispersed, Quartz, coarse fragments; Very few (0 - 2 %), Ferruginous, Fine (0 - 2 mm), Nodules; Field pH 6.2 (pH meter);
A22	0.25 - 0.3 m	Very pale brown (10YR7/4-Moist); Pale yellow (2.5Y8/4-Dry); ; Loamy fine sand; Massive grade of structure; Moist; Weak consistence; 0-2%, fine gravelly, 2-6mm, dispersed, Quartz, coarse fragments; Very few (0 - 2 %), Ferruginous, Fine (0 - 2 mm), Nodules; Field pH 6.3 (pH meter);
	0.3 - 0.4 m	Very pale brown (10YR7/4-Moist); Pale yellow (2.5Y8/4-Dry); ; Loamy fine sand; Massive grade of structure; Weak consistence; 0-2%, fine gravelly, 2-6mm, dispersed, Quartz, coarse fragments; Very few (0 - 2 %), Ferruginous, Fine (0 - 2 mm), Nodules; Field pH 6.4 (pH meter); Abrupt, Wavy change to -

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B21	0.4 - 0.5 m	Yellowish brown (10YR5/4-Moist); , 10YR53, 0-2% ; , 0-2% ; Light clay; Weak grade of structure, 10-20 mm, Angular blocky; Moist; Firm consistence; 0-2%, fine gravelly, 2-6mm, dispersed, Quartz, coarse fragments; Very few (0 - 2 %), Ferruginous, Fine (0 - 2 mm), Nodules; Field pH 6.2 (pH meter);
B22	0.5 - 0.6 m	Yellowish brown (10YR5/4-Moist); ; Light clay; Weak grade of structure, 50-100 mm, Angular blocky; Moist; Firm consistence; 2-10%, fine gravelly, 2-6mm, rounded, dispersed, Quartz, coarse fragments; Few (2 - 10 %), Ferromanganiferous, Fine (0 - 2 mm), Nodules; Field pH 6.3 (pH meter);
B23	0.6 - 0.85 m	Brown (10YR5/3-Moist); , 10YR66, 20-50% ; , 10YR53, 20-50% ; Medium heavy clay; Dry; Strong consistence; 2-10%, fine gravelly, 2-6mm, dispersed, Quartz, coarse fragments; Common (10 - 20 %), Ferromanganiferous, Fine (0 - 2 mm), Nodules; Field pH 6.6 (pH meter);
D	0.85 - 0.9 m	Yellowish brown (10YR5/4-Moist); Light yellowish brown (10YR6/4-Dry); , 0-2% ; , 0-2% ; Sandy clay loam; Massive grade of structure; Dry; 0-2%, fine gravelly, 2-6mm, dispersed, Quartz, coarse fragments; Common (10 - 20 %), Ferromanganiferous, Fine (0 - 2 mm), Nodules; Field pH 7.1 (pH meter);
	0.9 - 1.05 m	Yellowish brown (10YR5/4-Moist); Light yellowish brown (10YR6/4-Dry); ; Sandy clay loam; Massive grade of structure; 0-2%, fine gravelly, 2-6mm, dispersed, Quartz, coarse fragments; Common (10 - 20 %), Ferromanganiferous, Fine (0 - 2 mm), Nodules; Field pH 7.5 (pH meter);
	1.05 - 1.2 m	Light grey (10YR7/2-Moist); ; Sandy loam; Massive grade of structure; 0-2%, fine gravelly, 2-6mm, dispersed, Quartz, coarse fragments; Common (10 - 20 %), Ferromanganiferous, Fine (0 - 2 mm), Nodules; Field pH 8 (pH meter);
	1.2 - 1.5 m	Light grey (10YR7/2-Moist); ; Sandy loam; Massive grade of structure; 0-2%, fine gravelly, 2-6mm, dispersed, Quartz, coarse fragments; Common (10 - 20 %), Ferromanganiferous, Fine (0 - 2 mm), Nodules; Field pH 8.1 (pH meter);
	1.5 - 1.67 m	Light grey (10YR7/2-Moist); ; Sandy loam; Massive grade of structure; 0-2%, fine gravelly, 2-6mm, dispersed, Quartz, coarse fragments; Common (10 - 20 %), Ferromanganiferous, Fine (0 - 2 mm), Nodules; Field pH 8.1 (pH meter);
	1.67 - 1.82 m	Light grey (10YR7/2-Dry); , 10YR86, 2-10% ; , 2-10% ; Sandy clay loam; Massive grade of structure; 0-2%, rounded, dispersed, Quartz, coarse fragments; Field pH 7.7 (pH meter);

Morphological Notes

Observation Notes

COLLUVIUM FROM PORPHYRY LAYERS 13

Site Notes

CANBERRA

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Laboratory Test Results:

Depth	pH	1:5 EC	Exchangeable Cations Ca	Mg	K	Na	Exchangeable Acidity	CEC	ECEC	ESP
m		dS/m				Cmol (+)/kg				%
0 - 0.05	6.2A	0.09A	4.9K	0.76	1	0		8.6J		0.00
0.05 - 0.1	6.1A	0.03A	2.6K	0.65	0.62	0		6.3J		0.00
0.1 - 0.15	6.2A	0.03A	3.4K	0.52	0.29	0		6.2J		0.00
0.15 - 0.2	6.3A	0.03A	1.5K	0.47	0.13	0		2.6J		0.00
0.2 - 0.25	6.2A	0.03A	1.2K	0.34	0.12	0.06		2.3J		2.61
0.25 - 0.3	6.3A	0.03A	1.2K	0.18	0.12	0.06		2.3J		2.61
0.3 - 0.4	6.4A	0.03A	1.7K	0.07	0.13	0.05		2.6J		1.92
0.4 - 0.5	6.2A	0.09A	6.5K	2.9	0.49	0.05		13.9J		0.36
0.5 - 0.6	6.3A	0.03A	7.2K	0.4	0.62	0.09		11.9J		0.76
0.6 - 0.85	6.6A	0.03A	7.4K	4.6	0.65	0.26		14.3J		1.82
0.85 - 0.9	7.1A	0.03A	6K	2.8	0.38	0.21		9.8J		2.14
0.9 - 1.05	7.5A	0.03A	5.1K	3	0.28	0.23		8.3J		2.77

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 - 0.05		2.13F	35A		0.16B		1.40	0	16D	50	25	7
0.05 - 0.1		0.99F	6A		0.071B				17D	51	25	6
0.1 - 0.15		0.79F	3A		0.051B			2	17D	53	27	5
0.15 - 0.2		0.25F	3A		0.022B			1	15D	54	26	4
0.2 - 0.25		0.17F	2A		0.02B		1.50	1	15D	54	27	4
0.25 - 0.3		0.13F	2A		0.02B			1	14D	54	28	6
0.3 - 0.4		0.1F	2A		0.014B			1	13D	52	30	8
0.4 - 0.5		0.22F	3A		0.025B		1.50	1	11D	37	20	32
0.5 - 0.6		0.24F	6A		0.031B		1.60	1	13D	34	16	37
0.6 - 0.85		0.18F	4A		0.023B			9	16D	32	17	37
0.85 - 0.9		0.25F	4A		0.029B			8	33D	33	16	18
0.9 - 1.05		0.09F	3A		0.01B				15D	51	16	18

Depth	COLE	Gravimetric/Volumetric Water Contents Sat.	0.05 Bar	0.1 Bar	0.5 Bar	1 Bar	5 Bar	15 Bar	K sat	K unsat
m				g/g - m3/m3					mm/h	mm/h
0 - 0.05				0.31C				0.05C		
0.05 - 0.1										
0.1 - 0.15										
0.15 - 0.2										
0.2 - 0.25				0.27C				0.05C		
0.25 - 0.3										
0.3 - 0.4										
0.4 - 0.5				0.31C				0.21C		
0.5 - 0.6				0.31C				0.2C		
0.6 - 0.85										
0.85 - 0.9										
0.9 - 1.05										

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Laboratory Analyses Completed for this profile

15_NR_CA	Exch. basic cations (Ca++) - meq per 100g of soil - Not recorded
15_NR_CEC	CEC - meq per 100g of soil - Not recorded
15_NR_K	Exch. basic cations (K++) - meq per 100g of soil - Not recorded
15_NR_MG	Exch. basic cations (Mg++) - meq per 100g of soil - Not recorded
15_NR_NA	Exch. basic cations (Na++) - meq per 100g of soil - Not recorded
2_LOI	Loss on Ignition (%)
2A1	Air-dry moisture content
3A1	EC of 1:5 soil/water extract
4A1	pH of 1:5 soil/water suspension
5A2	Chloride - 1:5 soil/water extract, automated colour
6_DC	Organic carbon (%) - Dry combustion
7_NR	Total nitrogen (%) - Not recorded
9B_9C	Available P (mg/kg) - Bicarbonate P - 0.5M NaHCO3 extractable
P10_GRAV	Gravel (%)
P10_PB_C	Clay (%) - Plummet balance
P10_PB_CS	Coarse sand (%) - Plummet balance
P10_PB_FS	Fine sand (%) - Plummet balance
P10_PB_Z	Silt (%) - Plummet balance
P3A_NR	Bulk density - Not recorded
P3B_VL_01	0.1 BAR Moisture m3/m3 - Volumetric using suction plate
P3B_VL_15	15 BAR Moisture m3/m3 - Volumetric using pressure plate