Project Name: **Regional**
Project Code: **REG** **Site ID:** **T491** **Observation ID:** **1**
Agency Name: **CSIRO Division of Soils (QLD)**

Site Information

Desc. By:
Locality: Janis Boettinger Phd. site; Black earth has no veg. other than grasses.
Date Desc.: 01/05/88
Elevation: No Data
Map Ref.: Sheet No. : 8358 1:100000
Rainfall: 1091
Northing/Long.: 147.250555555556
Runoff: Very slow
Easting/Lat.: -19.8825
Drainage: Moderately well drained

Geology

ExposureType: Soil pit
Conf. Sub. is Parent. Mat.: No Data
Geol. Ref.: Czs
Substrate Material: Soil pit, 0.9 m deep,Granite

Land Form

Rel/Slope Class: Level plain <9m <1%
Pattern Type: Peneplain
Morph. Type: Crest
Relief: No Data
Elem. Type: Plain
Slope Category: Level
Slope: <1 %
Aspect: No Data

Surface Soil Condition (dry): Self-mulching, Cracking

Erosion:

Soil Classification

Australian Soil Classification:
Haplic Self-Mulching Black Vertosol
ASC Confidence:
All necessary analytical data are available.
Mapping Unit: N/A
Principal Profile Form: Ug5.12
Great Soil Group: Black earth

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

Vegetation: Low Strata - , , . *Species includes - Heteropogon triticeus

Tall Strata - Tree, 12.01-20m, Sparse. *Species includes - Eucalyptus drepanophylla, Eucalyptus papuana

Surface Coarse Fragments:

Profile Morphology

A	0 - 0.1 m	Very dark grey (10YR3/1-Moist); Black (10YR2/1-Dry); ; Light clay; Strong grade of structure, 5-10 mm, Angular blocky; Strong grade of structure, 10-20 mm, Angular blocky; Smooth-ped fabric; Few (<1 per 100mm2) Fine (1-2mm) macropores, Moist; Very firm consistence; Moderately plastic; Normal plasticity; Moderately sticky; Few, very fine (0-1mm) roots; Clear, Wavy change to -
A2/B	0.1 - 0.28 m	Very dark grey (10YR3/1-Moist); Black (10YR2/1-Dry); ; Medium clay; Strong grade of structure, 5-10 mm, Angular blocky; Strong grade of structure, 10-20 mm, Angular blocky; Smooth-ped fabric; Few (<1 per 100mm2) Fine (1-2mm) macropores, Moist; Very firm consistence; Very plastic; Normal plasticity; Very sticky; Common cutans, 10-50% of ped faces or walls coated, distinct; Few, very fine (0-1mm) roots; Gradual, Wavy change to -
A3/B	0.28 - 0.46 m	Very dark grey (10YR3/1-Moist); Black (10YR2/1-Dry); ; Medium clay; Strong grade of structure, 10-20 mm, Angular blocky; Strong grade of structure, 20-50 mm, Angular blocky; Smooth-ped fabric; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moist; Very firm consistence; Very plastic; Normal plasticity; Very sticky; Common cutans, 10-50% of ped faces or walls coated, distinct; Few, very fine (0-1mm) roots; Gradual, Wavy change to -
A4/B	0.46 - 0.76 m	Very dark grey (10YR3/1-Moist); Black (10YR2/1-Dry); ; Medium clay; Strong grade of structure, 10-20 mm, Angular blocky; Strong grade of structure, 20-50 mm, Subangular blocky; Smooth-ped fabric; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moist; Very firm consistence; Very plastic; Normal plasticity; Very sticky; Common cutans, 10-50% of ped faces or walls coated, distinct; Few, very fine (0-1mm) roots; Gradual, Smooth change to -
AC	0.76 - 0.9 m	Black (10YR2/1-Moist); Very dark grey (10YR3/1-Dry); , 10YR32; Medium clay; Massive grade of structure; Smooth-ped fabric; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moist; Very firm consistence; Moderately plastic; Normal plasticity; Moderately sticky; 10-20%, fine gravelly, 2-6mm, subangular, dispersed, Substrate material, coarse fragments; Few, very fine (0-1mm) roots; Abrupt, Wavy change to -
C	0.9 - 1.08 m	Brown (10YR5/3-Moist); Pale brown (10YR6/3-Dry); , 10YR63; Loamy sand; Massive grade of structure; Moist; Very firm consistence; Non-plastic; Normal plasticity; Non-sticky; 20-50%, fine gravelly, 2-6mm, subangular, dispersed, Substrate material, coarse fragments; Few (2 - 10 %), Calcareous, Coarse (6 - 20 mm), Concretions;

Morphological Notes

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Observation Notes

Deppression of duplex/clay complex;mottles are parent material in AC/BC;rock cleavage appears vertically oriented; ?

Site Notes

HOME HILL

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Laboratory Test Results:

Depth	pH	1:5 EC	Exchangeable Cations				Exchangeable Acidity	CEC	ECEC	ESP
			Ca	Mg	K	Na				
m		dS/m	Cmol (+)/kg							%
0 - 0.1	6.23A	0.057A	17.5H	14.7	0.28	0.42	<0.2F	27.5J	32.9E	1.53
								30C		1.40
0.1 - 0.28	7.17A	0.068A	21.3H	17.3	0.08	1.1	0.02F	32.4J	39.8E	3.40
								33.2C		3.31
0.28 - 0.46	7.11A	0.092A	20.7H	17.2	0.09	1.26	<0.02F	35.3J	39.3E	3.57
								36C		3.50
0.46 - 0.76	7.81A	0.265A	20.9H	17.7	0.07	2.01	<0.02F	32.4J	40.7E	6.20
								35.8C		5.61
0.76 - 0.9	8.78A	0.347A	16.8H	14.1	0.04	2	<0.02F	20.3J	33E	9.85
								23.7C		8.44
0.9 - 1.08	8.82A	0.277A	11.9H	11.1	0.03	2	<0.02F	18.4J	25.1E	10.87
								16.9C		11.83

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 - 0.1		2.07C	12A	0.04A	0.08A	0.19A						
			16B									
0.1 - 0.28		1.33C			0.04A							
0.28 - 0.46		1.25C	4A	0.02A		0.14A						
			6B									
0.46 - 0.76		1.2C										
0.76 - 0.9		0.55C	3A	0.07A	0.02A	0.44A						
			615B									
0.9 - 1.08		0.23C										

Depth	COLE	Gravimetric/Volumetric Water Contents						K sat	K unsat
		Sat.	0.05 Bar	0.1 Bar	0.5 Bar	1 Bar	5 Bar	15 Bar	
m		g/g - m3/m3						mm/h	mm/h
0 - 0.1									
0.1 - 0.28									
0.28 - 0.46									
0.46 - 0.76									
0.76 - 0.9									
0.9 - 1.08									

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Laboratory Analyses Completed for this profile

10A1	Total sulfur - X-ray fluorescence
12_HF_FE	Total element - Fe(%) - HF/HClO4 Digest
12_XRF_CU	Total element - Cu(mg/kg) - X-Ray Fuoresence
12_XRF_MN	Total element - Mn(mg/kg) - X-Ray Fuoresence
12_XRF_ZN	Total element - Zn(mg/kg) - X-Ray Fuoresence
13C1_FE	Citrate/dithionite-extractable iron, aluminium, Manganese and Silicon
15_NR	Sum of Ex. cations + Ex. acidity - Not recorded
15_NR_CEC	CEC - meq per 100g of soil - Not recorded
15D1_CEC	CEC - 1M ammonium acetate at pH 7.0, pretreatment for soluble salts; manual leach
15E1_CA	Exchangeable bases (Ca2+,Mg2+,Na+,K+) by compulsive exchange, no pretreatment for soluble
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
15G_C	Exchange acidity (hydrogen and aluminium) - meq per 100g of soil - By 1M KCl exch. acidity by titration to pH 8.4
17A1	Total potassium - X-ray fluorescence
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
6B3	Total organic carbon - high frequency induction furnace, infrared
7A2	Total nitrogen - semimicro Kjeldahl , automated colour
9A1	Total phosphorus - X-ray fluorescence
9B_9C	Available P (mg/kg) - Bicarbonate P - 0.5M NaHCO3 extractable
9G_BSES	Available P (mg/kg) - Acid P - 0.005M H2SO4 (BSES)