Project Name: Regional

Project Code: Site ID: T168 Observation ID: 1 **REG**

Agency Name: CSIRO Division of Soils (QLD)

Site Information

Locality: G.G. Murtha 10.7KM west of Nulla Nulla on Road to Cargoon:

Desc. By: Date Desc.: Elevation: 11/05/71 61 metres Map Ref.: Sheet No.: 7958 1:100000 Rainfall: 690 Northing/Long.: 145.125 Runoff: Rapid Easting/Lat.: -19.85833333333333 Drainage: Well drained

Geology

ExposureType: Conf. Sub. is Parent. Mat.: No Data Undisturbed soil core

Substrate Material: Geol. Ref.: Undisturbed soil core, 3 m deep,Basalt Czn

Land Form

Rel/Slope Class: Level plain <9m <1% Pattern Type: Plain Morph. Type: Elem. Type: No Data Relief: 0 metres

Slope Category: Very gently sloped Plain

Slope: 0 % Aspect: No Data

Surface Soil Condition (dry): Firm

Erosion:

Soil Classification

Australian Soil Classification: **Mapping Unit:** N/A Haplic Eutrophic Brown Ferrosol **Principal Profile Form:** Gn3.22

ASC Confidence: Great Soil Group: No suitable group

All necessary analytical data are available.

<u>Site Disturbance:</u> No effective disturbance other than grazing by hoofed animals

Vegetation: Low Strata - Tussock grass, 0.51-1m, Mid-dense. *Species includes - None recorded

Tall Strata - Tree, 6.01-12m, Very sparse. *Species includes - Eucalyptus drepanophylla

Surface Coarse Fragments: 2-10%, fine gravelly, 2-6mm, subrounded, Other

Profile Morphology

A1	0 - 0.1 m	Dark brown (7.5YR3/2-Moist); ; Loam (Heavy); Moderate grade of structure, 2-5 mm, Angular
	· · · · · · · · · · · · · · · · · · ·	blocky; Moist; Weak consistence; 0-2%, fine gravelly, 2-6mm, Quartz, coarse fragments; Very few (0 - 2 %), Ferromanganiferous, Fine (0 - 2 mm), Nodules; Gradual change to -
А3	0.1 - 0.2 m	Dark brown (7.5YR3/4-Moist); ; Clay loam; Moderate grade of structure, 2-5 mm, Angular blocky; Moist; Weak consistence; Very few (0 - 2 %), Ferromanganiferous, Medium (2 -6 mm), Nodules;
B1	0.2 - 0.3 m	Brown (7.5YR4/4-Moist); ; Clay loam (Heavy); Moderate grade of structure, 2-5 mm, Angular blocky; Moist; Weak consistence; Very few (0 - 2 %), Ferromanganiferous, Fine (0 - 2 mm), Nodules;
B1	0.3 - 0.45 m	Brown (7.5YR4/4-Moist); ; Light medium clay; Strong grade of structure, 2-5 mm, Angular blocky; Moist; Weak consistence; Few (2 - 10 %), Ferromanganiferous, Fine (0 - 2 mm), Nodules;
B21	0.45 - 0.6 m	Strong brown (7.5YR4/6-Moist); ; Medium clay; Strong grade of structure, 2-5 mm, Angular blocky; Moist; Weak consistence; Few (2 - 10 %), Ferromanganiferous, Fine (0 - 2 mm), Nodules;
B21	0.6 - 0.9 m	Strong brown (7.5YR4/6-Moist); ; Medium clay; Strong grade of structure, 2-5 mm, Angular blocky; Moist; Weak consistence; Few (2 - 10 %), Ferromanganiferous, Fine (0 - 2 mm), Nodules; Diffuse change to -
B22	0.9 - 1.2 m	Strong brown (7.5YR5/6-Moist); , 2.5YR46, 10-20% , 5-15mm, Distinct; , 10-20% , 5-15mm, Distinct; Medium clay; Strong grade of structure, 5-10 mm, Angular blocky; Moist; Very firm consistence; Few (2 - 10 %), Ferromanganiferous, Coarse (6 - 20 mm), Nodules;
B22	1.2 - 1.5 m	Strong brown (7.5YR5/6-Moist); , 2.5YR46, 10-20% , 5-15mm, Distinct; , 10-20% , 5-15mm, Distinct; Medium clay; Strong grade of structure, 5-10 mm, Angular blocky; Moist; Very firm consistence; Few (2 - 10 %), Manganiferous, Coarse (6 - 20 mm), Concretions;
	1.5 - 1.8 m	Red (2.5YR4/6-Moist); , 7.5YR57, 10-20% , 15-30mm, Distinct; , 10-20% , 15-30mm, Distinct; Medium clay; Moderate grade of structure, 5-10 mm, Angular blocky; Very firm consistence; Few (2 - 10 %), Manganiferous, Coarse (6 - 20 mm), Concretions;

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> Red (2.5YR4/6-Moist); , 7.5YR54, 2-10% , 15-30mm, Distinct; , 2-10% , 15-30mm, Distinct; 1.8 - 2.1 m Heavy clay; Weak grade of structure, 5-10 mm, Angular blocky; Very firm consistence; Few (2 -

10 %), Manganiferous, , Concretions;

Red (2.5YR4/6-Moist); , 7.5YR54, 2-10% , 15-30mm, Distinct; , 2-10% , 15-30mm, Distinct; 2.1 - 2.4 m

Heavy clay; Weak grade of structure, 5-10 mm, Angular blocky; Very firm consistence; Few (2 -

10 %), Manganiferous, , Concretions;

Brown (7.5YR4/4-Moist); , 5YR48, 10-20% , 5-15mm, Distinct; , 10YR56, 10-20% , 5-15mm, Distinct; Heavy clay; Moderate grade of structure, Angular blocky; Very firm consistence; Few (2 2.4 - 2.7 m

- 10 %), Manganiferous, , Concretions;

Brown (7.5YR4/4-Moist); , 5YR48, 10-20% , 5-15mm, Distinct; , 10YR56, 10-20% , 5-15mm, 2.7 - 3 m

Distinct; Heavy clay; Moderate grade of structure, Angular blocky; Very firm consistence; Few (2

- 10 %), Manganiferous, , Concretions,

3 - 3.3 m С

Morphological Notes

Multicoloured weathered basalt:

Observation Notes

2-10% <2MM FEMN NODULES ON SURFACE:270-300CM WEATHERED BASALT INCREASING:

Site Notes

NULLA NULLA

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Depth	рН	1:5 EC		changeable			Exchangeal	ole CEC		ECEC	ı	ESP
m		dS/m	Са	Mg	K	Na Cmol (+	Acidity)/kg					%
0 - 0.1	6.4A	0.047	A 15.1B	6.6	0.65	0.06						
0.1 - 0.2	6.5A	0.044	A 13.1B	5.7	0.18	0.09						
0.2 - 0.3	6.6A	0.047	_	5.5	0.16	0.24						
0.3 - 0.45	6.6A	0.044		4.9	0.13	0.16						
0.45 - 0.6	6.7A	0.044		0.0	0.44	0.04						
0.6 - 0.9	6.9A	0.044		3.8	0.11	0.21						
0.9 - 1.2 1.2 - 1.5	7.2A 7.4A	0.053 <i>f</i> 0.044 <i>f</i>		4.8	0.1	0.39						
1.5 - 1.8	7.4A 7.4A	0.059		4.5	0.12	0.66						
1.8 - 2.1	7.4A	0.062		4.5	0.12	0.00						
2.1 - 2.4	6.6A	0.068										
2.4 - 2.7	7.4A	0.133										
2.7 - 3		0.133	A									
3 - 3.3		0.133	A									
Depth	CaCO3	Organic	Avail.	Total	Total	Total	Bulk	с Р	article	Size	Δnalvsis	
Борин	ouooo	C	P	P	N	K	Densi		CS	FS	Silt	
m	%	%	mg/kg	%	%	%	Mg/m			%		
0 - 0.1		1.6D	86B	0.17A	0.14	4A 0.3	BA	0	23A	15	23	42
0.1 - 0.2		0.81D	8B		0.07			0	19A	13	21	54
0.2 - 0.3		0.53D	5B		0.0			0	15A	11	16	61
0.3 - 0.45		0.44D	6B	0.004	0.04			0	14A	10	19	61
0.45 - 0.6		0.27D	10B	0.09A		0.3	3A	0	24 4	0	11	64
0.6 - 0.9 0.9 - 1.2		0.22D	25B	0.1A		0.1	4 Δ	0	21A 11A	8 10	14 12	61 73
1.2 - 1.5		0.220	200	0.17		0.1	+/\	U	117	10	12	13
1.5 - 1.8		0.08D						0	10A	15	21	63
1.8 - 2.1								•				
2.1 - 2.4				0.091A		0.1	4A	0	5A	14	22	69
2.4 - 2.7												
2.7 - 3												
3 - 3.3								0	28A	37	13	22
Depth	COLE		Gra	vimetric/Vol		later Con	tents		K sa	at	K unsa	t
m		Sat.	0.05 Bar		0.5 Bar J - m3/m3	1 Bar 3	5 Bar	15 Bar	mm/	h'	mm/h	
0 - 0.1												
0.1 - 0.2												
0.2 - 0.3												
0.3 - 0.45												
0.45 - 0.6 0.6 - 0.9												
0.0 - 0.9												
1.2 - 1.5												
1.5 - 1.8												
1.8 - 2.1												

1.8 - 2.1 2.1 - 2.4 2.4 - 2.7 2.7 - 3

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3 - 3.3

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Laboratory Analyses Completed for this profile

10A1 Total sulfur - X-ray fluorescence

12_HF_CU Total element - Cu(mg/kg) - HF/HClO4 Digest
12_HF_FE Total element - Fe(%) - HF/HClO4 Digest
12_HF_MN Total element - Mn(mg/kg) - HF/HClO4 Digest
12_HF_ZN Total element - Zn(mg/kg) - HF/HClO4 Digest

13C1_FE

Citrate/dithionite-extractable iron, aluminium, Manganese and Silicon
15_NR_CA

Exch. basic cations (Ca++) - meq per 100g of soil - Not recorded

Exch. basic cations (K++) - meq per 100g of soil - Not recorded

Exch. basic cations (Mg++) - meq per 100g of soil - Not recorded

Exch. basic cations (Mg++) - meq per 100g of soil - Not recorded

Exch. basic cations (Na++) - meq per 100g of soil - Not recorded

15A2_CA Exchangeable bases (Ca2+,Mg2+,Na+,K+) - 1M ammonium chloride at pH 7.0, pretreatment for

soluble salts

15A2_K Exchangeable bases- 1M ammonium chloride at pH 7.0, pretreatment for soluble salts 15A2_MG Exchangeable bases- 1M ammonium chloride at pH 7.0, pretreatment for soluble salts 15A2_NA Exchangeable bases- 1M ammonium chloride at pH 7.0, pretreatment for soluble salts

17A1 Total potassium - X-ray fluorescence

3A1 EC of 1:5 soil/water extract 4A1 pH of 1:5 soil/water suspension

6A1_UC Organic carbon (%) - Uncorrected Walkley and Black method

7A2 Total nitrogen - semimicro Kjeldahl , automated colour

9A1 Total phosphorus - X-ray fluorescence

9G_BSES Available P (mg/kg) - Acid P - 0.005M H2SO4 (BSES)

P10_CF_C Clay (%) - Coventry and Fett pipette method

P10_CF_CS
P10_CF_FS
P10_CF_Z
Coarse sand (%) - Coventry and Fett pipette method
Fine sand (%) - Coventry and Fett pipette method
Silt (%) - Coventry and Fett pipette method

P10_GRAV Gravel (%)

XRD_C_Hm Hematite - X-Ray Diffraction

XRD_C_ls Interstratified clay minerals - X-Ray Diffraction

XRD_C_Ka Kaolin - X-Ray Diffraction XRD_C_Qz Quartz - X-Ray Diffraction