Project Name: **Regional**
Project Code: **REG** **Site ID:** **T120** **Observation ID:** **1**
Agency Name: **CSIRO Division of Soils (QLD)**

Site Information

Desc. By: G. Smith
Locality: 1.4KM north west of Hann River on Kennedy Highway:opposite Musgrave endof DPI plots:
Date Desc.: 04/07/70
Elevation: No Data
Map Ref.: Sheet No. : 7667 1:100000
Rainfall: 1020
Northing/Long.: 143.866666666667
Runoff: Moderately rapid
Easting/Lat.: -15.1833333333333
Drainage: No Data

Geology

ExposureType: Undisturbed soil core
Conf. Sub. is Parent. Mat.: No Data
Geol. Ref.: Qs
Substrate Material: No Data

Land Form

Rel/Slope Class: Undulating rises 9-30m 3-10%
Pattern Type: Rises
Morph. Type: Ridge
Relief: 30 metres
Elem. Type: Hillcrest
Slope Category: No Data
Slope: 0 %
Aspect: No Data

Surface Soil Condition (dry): Loose

Erosion:

Soil Classification

Australian Soil Classification:
Haplic Magnesic Red Kandosol
ASC Confidence:
All necessary analytical data are available.
Mapping Unit: N/A
Principal Profile Form: Gn2.14
Great Soil Group: Red earth

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

Vegetation: Low Strata - Tussock grass, 0.51-1m, Mid-dense. *Species includes - Chrysopogon fallax, Panicum species
Tall Strata - Tree, 12.01-20m, Sparse. *Species includes - Eucalyptus tetrodonta, Eucalyptus polycarpa

Surface Coarse Fragments: No surface coarse fragments

Profile Morphology

A1	0 - 0.05 m	Brown (7.5YR4/4-Moist); Brown (7.5YR5/4-Dry); ; Sand; Single grain grade of structure; Loose consistence; Few, fine (1-2mm) roots; Clear change to -
A21	0.05 - 0.1 m	Reddish brown (5YR4/4-Moist); Brown (7.5YR5/4-Dry); ; Sand; Single grain grade of structure; Loose consistence; Gradual change to -
A23	0.1 - 0.2 m	Yellowish red (5YR4/6-Moist); Yellowish red (5YR5/6-Dry); ; Sand; Massive grade of structure; Firm consistence; Gradual change to -
A3	0.2 - 0.3 m	Red (2.5YR4/6-Moist); Yellowish red (5YR5/6-Dry); ; Sand; Massive grade of structure; Firm consistence; Gradual change to -
A3	0.3 - 0.4 m	Yellowish red (5YR4/8-Moist); Yellowish red (5YR5/8-Dry); ; Sand (Heavy); Massive grade of structure; Firm consistence; Gradual change to -
B1	0.4 - 0.5 m	Red (2.5YR4/8-Moist); Red (2.5YR4/8-Dry); ; Loamy sand; Massive grade of structure; Firm consistence; Gradual change to -
B1	0.5 - 0.6 m	Red (2.5YR4/8-Moist); Red (2.5YR4/8-Dry); ; Fine sandy loam; Massive grade of structure; Earthy fabric; Weak consistence; Few (2 - 10 %), Unidentified, Very coarse (20 - 60 mm), Nodules; Gradual change to -
B21	0.6 - 0.75 m	Red (10R4/8-Moist); Red (2.5YR4/8-Dry); ; Sandy clay loam; Massive grade of structure; Earthy fabric; Very firm consistence; 0-2%, rounded, Sandstone, coarse fragments; Gradual change to
B22	0.75 - 0.9 m	Red (10R4/8-Moist); Red (10R4/8-Dry); ; Clay loam, fine sandy; Massive grade of structure; Earthy fabric; Very firm consistence; 0-2%, rounded, Sandstone, coarse fragments; Few (2 - 10 %), Argillaceous, , Nodules; Gradual change to -
B22	0.9 - 1.2 m	Red (10R4/8-Moist); Red (10R4/8-Dry); , 7.5YR68, 0-2% ; , 0-2% ; Clay loam, fine sandy; Massive grade of structure; Earthy fabric; Firm consistence; Gradual change to -
B22	1.2 - 1.5 m	Red (10R4/8-Moist); Red (10R4/8-Dry); ; Clay loam, fine sandy; Massive grade of structure; Earthy fabric; Firm consistence; Common (10 - 20 %), Argillaceous, Medium (2 -6 mm), Nodules; Gradual change to -

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	1.5 - 1.8 m	Red (10R4/8-Moist); Red (10R4/8-Dry); ; Clay loam, fine sandy; Massive grade of structure; Earthy fabric; Firm consistence; Gradual change to -
	1.8 - 2.1 m	Red (10R4/8-Moist); Red (10R4/8-Dry); ; Clay loam, fine sandy; Massive grade of structure; Earthy fabric; Firm consistence; Gradual change to -
	2.1 - 2.4 m	Red (10R4/8-Moist); Red (10R4/8-Dry); , 7.5YR68, 0-2% , 15-30mm; , 0-2% , 15-30mm; Clay loam, fine sandy; Massive grade of structure; Earthy fabric; Firm consistence; Gradual change to -
	2.4 - 2.7 m	Red (10R4/8-Moist); Red (10R4/8-Dry); ; Clay loam, fine sandy; Massive grade of structure; Earthy fabric; Strong consistence; Few (2 - 10 %), Argillaceous, , Nodules; Gradual change to -
	2.7 - 3 m	Red (10R4/8-Moist); Red (10R4/8-Dry); ; Clay loam, fine sandy; Massive grade of structure; Earthy fabric; Weak consistence; Few (2 - 10 %), Argillaceous, , Nodules; Gradual change to -
	3 - 3.3 m	Red (10R4/8-Moist); Red (10R4/8-Dry); ; Clay loam, fine sandy; Massive grade of structure; Earthy fabric; Strong consistence; Few (2 - 10 %), Argillaceous, , Nodules; Gradual change to -
	3.3 - 3.6 m	Red (10R4/8-Moist); Red (10R4/8-Dry); ; Clay loam, fine sandy; Massive grade of structure; Earthy fabric; Strong consistence; Few (2 - 10 %), Argillaceous, , Nodules; Gradual change to -
	3.6 - 3.9 m	Red (10R4/8-Moist); Red (10R4/8-Dry); ; Sandy clay loam; Massive grade of structure; Earthy fabric; Weak consistence; Few (2 - 10 %), Argillaceous, , Nodules; Gradual change to -
	3.9 - 4.2 m	Red (10R4/8-Moist); Red (10R4/8-Dry); , 7.5YR68, 0-2% ; , 0-2% ; Sandy clay loam; Massive grade of structure; Earthy fabric; Weak consistence; Gradual change to -
	4.2 - 4.5 m	Red (10R4/8-Moist); Red (10R4/8-Dry); , 7.5YR68, 0-2% ; , 0-2% ; Sandy clay loam; Massive grade of structure; Earthy fabric; Weak consistence; Gradual change to -
	4.5 - 5.1 m	Red (10R4/8-Moist); Red (10R4/8-Dry); , 7.5YR68, 0-2% , 5-15mm; , 0-2% , 5-15mm; Sandy clay loam; Massive grade of structure; Earthy fabric; Weak consistence; Gradual change to -
	5.1 - 5.4 m	Red (10R4/8-Moist); Red (10R4/8-Dry); , 7.5YR68, 0-2% , 5-15mm; , 0-2% , 5-15mm; Sandy clay loam; Massive grade of structure; Earthy fabric; Weak consistence; 0-2%, medium gravelly, 6-20mm, rounded, Quartz, coarse fragments; Gradual change to -
	5.4 - 5.7 m	Red (2.5YR4/8-Moist); Red (2.5YR4/8-Dry); , 5YR66; Sandy clay loam; Massive grade of structure; Earthy fabric; Weak consistence; Common (10 - 20 %), Argillaceous, Fine (0 - 2 mm), Nodules; Clear change to -
C	5.7 - 6 m	Red (2.5YR4/8-Moist); , 5YR66; Sandy loam; Massive grade of structure; Weak consistence; Common (10 - 20 %), Argillaceous, , Nodules; Gradual change to -
	6 - 6.3 m	Red (2.5YR5/8-Moist); , 10R36; Sand; Weak consistence; Gradual change to -
	6.3 - 6.5 m	Reddish yellow (7.5YR7/6-Moist); , 10R36; Sand; Weak consistence; Gradual change to -
	6.5 - 6.65 m	Brownish yellow (10YR6/8-Moist); , 10YR74; Sand; Weak consistence;

Morphological Notes

Observation Notes

570-600CM COARSE LENTICULES OF SANDY MATERIAL WITH C0R48 FE RICH BANDS OF SCL TEXTURE:LAYERS RENUMBERED 22-9-92

Site Notes

HANN RIVER

Project Name: Regional
Project Code: REG **Site ID:** T120 **Observation ID:** 1
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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 - 0.05	5.8A	0.053A	0.84B	0.74	0.13	0.14	2.9F		4.8F	
0.05 - 0.1	6A	0.032A	0.78B	0.7	0.11	0.13	2F		3.7F	
0.1 - 0.2	6.1A	0.029A	0.64B	0.65	0.11	0.14	0.8F		2.3F	
0.2 - 0.3	6.3A	0.02A	0.44B	0.52	0.09	0.12	0.8F		2F	
0.3 - 0.4	6A	0.029A								
0.4 - 0.5	6.2A	0.017A	0.3B	0.77	0.11	0.16	0.8F		2.1F	
0.5 - 0.6	6.2A	0.017A								
0.6 - 0.75	6.3A	0.017A								
0.75 - 0.9	6.1A	0.02A	0.14B	1.94	0.09	0.15	1.2F	3A	3.5F	5.00
0.9 - 1.2	6.1A	0.017A								
1.2 - 1.5	6A	0.02A								
1.5 - 1.8	6.1A	0.023A								
1.8 - 2.1	6.1A	0.017A								
2.1 - 2.4	6.1A	0.02A								
2.4 - 2.7	6.2A	0.011A	0.14B	2.1	0.06	0.15				
2.7 - 3	6.2A	0.014A								
3 - 3.3	6.1A	0.014A								
3.3 - 3.6	6.2A	0.014A								
3.6 - 3.9	6.1A	0.017A								
3.9 - 4.2	6A	0.017A								
4.2 - 4.5	5.9A	0.014A	0.14B	1.7	0.03	0.16				
4.5 - 5.1	5.9A	0.017A								
5.1 - 5.4	6A	0.017A								
5.4 - 5.7	6A	0.017A								
5.7 - 6	6A	0.017A								
6 - 6.3	6.1A	0.014A								
6.3 - 6.5	6.1A	0.017A								
6.5 - 6.65	6.1A	0.02A								

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		0.94D	6.8B	0.004A	0.04A	0.03A		0	37A	57	2	4
0.05 - 0.1		0.68D	3.8B	0.003A	0.04A	0.04A		0	37A	56	2	5
0.1 - 0.2		0.46D		0.003A		0.04A		0	33A	59	2	5
0.2 - 0.3		0.24D						0	32A	59	2	6
0.3 - 0.4		0.2D			0.01A							
0.4 - 0.5								0	30A	55	2	13
0.5 - 0.6												
0.6 - 0.75				0.005A		0.07A		0	28A	46	2	24
0.75 - 0.9								0	26A	40	2	32
0.9 - 1.2												
1.2 - 1.5												
1.5 - 1.8				0.009A		0.11A		0	21A	35	1	43
1.8 - 2.1								0	22A	37	2	40
2.1 - 2.4												
2.4 - 2.7								0	22A	40	1	37
2.7 - 3												
3 - 3.3								0	23A	40	1	36
3.3 - 3.6												

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3.6 - 3.9	0	26A	40	2	32
3.9 - 4.2					
4.2 - 4.5	0	28A	40	2	30
4.5 - 5.1					
5.1 - 5.4					
5.4 - 5.7					
5.7 - 6					
6 - 6.3					
6.3 - 6.5					
6.5 - 6.65					

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 - 0.05									
0.05 - 0.1									
0.1 - 0.2									
0.2 - 0.3									
0.3 - 0.4									
0.4 - 0.5									
0.5 - 0.6									
0.6 - 0.75									
0.75 - 0.9									
0.9 - 1.2									
1.2 - 1.5									
1.5 - 1.8									
1.8 - 2.1									
2.1 - 2.4									
2.4 - 2.7									
2.7 - 3									
3 - 3.3									
3.3 - 3.6									
3.6 - 3.9									
3.9 - 4.2									
4.2 - 4.5									
4.5 - 5.1									
5.1 - 5.4									
5.4 - 5.7									
5.7 - 6									
6 - 6.3									
6.3 - 6.5									
6.5 - 6.65									

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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
15A2_CA	Exchangeable bases (Ca2+,Mg2+,Na+,K+) - 1M ammonium chloride at pH 7.0, pretreatment for soluble salts
15A2_CEC	Exchangeable bases- 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
15G_C	Exchange acidity (hydrogen and aluminium) - meq per 100g of soil - By 1M KCl exch. acidity by titration to pH 8.4
15J1	Effective CEC
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)
MIN_EC	Exchange Capacity - Minerology
P10_CF_C	Clay (%) - Coventry and Fett pipette method
P10_CF_CS	Coarse sand (%) - Coventry and Fett pipette method
P10_CF_FS	Fine sand (%) - Coventry and Fett pipette method
P10_CF_Z	Silt (%) - Coventry and Fett pipette method
P10_GRAV	Gravel (%)
XRD_C_Hm	Hematite - X-Ray Diffraction
XRD_C_Il	Illite - X-Ray Diffraction
XRD_C_Is	Interstratified clay minerals - X-Ray Diffraction
XRD_C_K2O	K2O - X-Ray Diffraction or Clay Fraction (air dry)
XRD_C_Ka	Kaolin - X-Ray Diffraction
XRD_C_Qz	Quartz - X-Ray Diffraction