Project Name: **Regional**
Project Code: **REG** **Site ID:** **T131** **Observation ID:** **1**
Agency Name: **CSIRO Division of Soils (QLD)**

Site Information

Desc. By: R.F. Isbell
Locality: Adjacent to trial plot 2.1KM from turnoff to new homestead site:
Date Desc.: 15/07/70
Elevation: No Data
Map Ref.: Sheet No. : 7474 1:100000
Rainfall: 1680
Northing/Long.: 142.516666666667
Runoff: Slow
Easting/Lat.: -11.7333333333333
Drainage: Imperfectly drained

Geology

ExposureType: Undisturbed soil core
Conf. Sub. is Parent. Mat.: No Data
Geol. Ref.: Jkb
Substrate Material: Undisturbed soil core, 6.3 m deep,Sandstone

Land Form

Rel/Slope Class: Undulating rises 9-30m 3-10%
Pattern Type: Rises
Morph. Type: Crest
Relief: 24 metres
Elem. Type: Hillcrest
Slope Category: Level
Slope: 0 %
Aspect: No Data

Surface Soil Condition (dry): Firm

Erosion:

Soil Classification

Australian Soil Classification:
Mottled Dystrophic Red Kandosol
ASC Confidence:
All necessary analytical data are available.
Mapping Unit: N/A
Principal Profile Form: Gn2.44
Great Soil Group: Red earth

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

Vegetation: Low Strata - Sedge, 0.26-0.5m, Very sparse. *Species includes - Xanthorrhoea johnsonii

Tall Strata - Heath shrub, 1.01-3m, Mid-dense. *Species includes - Grevillea glauca, Grevillea pteridifolia, Melaleuca viridiflora

Surface Coarse Fragments: No surface coarse fragments

Profile Morphology

A11	0 - 0.05 m	Brown (10YR4/3-Moist); Pale brown (10YR6/3-Dry); ; Loamy sand; Massive grade of structure; Dry; Very firm consistence; Few, fine (1-2mm) roots; Clear change to -
A12	0.05 - 0.1 m	Yellowish brown (10YR5/4-Moist); Brownish yellow (10YR6/5-Dry); ; Sandy loam (Light); Massive grade of structure; Few (<1 per 100mm2) Fine (1-2mm) macropores, Dry; Very firm consistence; Common, medium (2-5mm) roots; Gradual change to -
A21	0.1 - 0.2 m	Yellowish brown (10YR5/5-Moist); Brownish yellow (10YR6/5-Dry); ; Sandy loam (Light); Massive grade of structure; Dry; Very firm consistence; Few, fine (1-2mm) roots; Gradual change to -
A2	0.2 - 0.3 m	Strong brown (7.5YR4/6-Moist); Reddish yellow (7.5YR6/7-Dry); ; Sandy loam (Light); Massive grade of structure; Dry; Very firm consistence; Few, fine (1-2mm) roots;
A3	0.3 - 0.4 m	Yellowish red (5YR5/7-Moist); Reddish yellow (7.5YR6/8-Dry); ; Sandy loam (Light); Massive grade of structure; Dry; Very firm consistence; Gradual change to -
A3	0.4 - 0.5 m	Yellowish red (5YR5/8-Moist); , 10YR78, 2-10% , 0-5mm, Distinct; , 2-10% , 0-5mm, Distinct; Sandy loam (Light); Massive grade of structure; Moderately moist; Very weak consistence;
A3	0.5 - 0.6 m	Yellowish red (5YR5/8-Moist); , 10YR78, 2-10% , 15-30mm, Distinct; , 2-10% , 15-30mm, Distinct; Sandy loam (Light); Massive grade of structure; Moderately moist; Weak consistence;
A3	0.6 - 0.75 m	Yellowish red (5YR5/8-Moist); , 10YR78, 2-10% , 15-30mm, Distinct; , 2-10% , 15-30mm, Distinct; Sandy loam; Massive grade of structure; Moderately moist; Weak consistence;
B1	0.75 - 0.9 m	Red (2.5YR4/8-Moist); , 10YR78, 2-10% , 0-5mm, Distinct; , 2-10% , 0-5mm, Distinct; Sandy clay loam (Light); Massive grade of structure; Moderately moist; Firm consistence;
B1	0.9 - 1.2 m	Red (2.5YR4/8-Moist); , 10YR78, 10-20% , 5-15mm, Distinct; , 10-20% , 5-15mm, Distinct; Fine sandy clay loam (Heavy); Massive grade of structure; Moderately moist; Firm consistence;
B1	1.2 - 1.5 m	Red (2.5YR4/8-Moist); , 7.5YR68, 2-10% , 15-30mm, Distinct; , 2-10% , 15-30mm, Distinct; Clay loam; Massive grade of structure; Moderately moist; Very firm consistence;

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B1	1.5 - 1.8 m	Red (2.5YR4/8-Moist); , 7.5YR68, 2-10% , 15-30mm, Distinct; , 2-10% , 15-30mm, Distinct; Light medium clay; Massive grade of structure; Moderately moist; Very firm consistence; , Argillaceous, , Nodules;
B21	1.8 - 2.1 m	Red (2.5YR4/8-Moist); , 7.5YR68, 2-10% , 15-30mm, Distinct; , 2-10% , 15-30mm, Distinct; Light medium clay; Massive grade of structure; Dry; Very strong consistence; , Argillaceous, , Nodules;
B22	2.1 - 2.4 m	Red (2.5YR4/8-Moist); , 2.5YR36, 0-2% ; , 0-2% ; Light medium clay; Weak grade of structure, 10-20 mm, Angular blocky; Dry; Very strong consistence;
B22	2.4 - 2.7 m	Red (10R4/8-Moist); ; Light medium clay; Weak grade of structure, 10-20 mm, Angular blocky; Dry; Very strong consistence; Common (10 - 20 %), Argillaceous, , Nodules;
	2.7 - 3 m	Red (10R4/8-Moist); ; Light clay; Massive grade of structure; Weak consistence; Common (10 - 20 %), Argillaceous, , Nodules;
	3 - 3.3 m	Red (10R4/8-Moist); ; Clay loam (Heavy); Massive grade of structure; Weak consistence; Very few (0 - 2 %), , Medium (2 -6 mm), Nodules; Clear change to -
	3.3 - 3.6 m	Red (10R4/8-Moist); ; Clay loam (Heavy); Massive grade of structure; Firm consistence; 10-20%, medium gravelly, 6-20mm, subrounded, Sandstone, coarse fragments; Common (10 - 20 %), Ferruginous, Coarse (6 - 20 mm), Nodules;
	3.6 - 3.9 m	Red (10R4/8-Moist); ; Clay loam (Heavy); Massive grade of structure; Very weak consistence; 0-2%, medium gravelly, 6-20mm, subrounded, Quartz, coarse fragments; Few (2 - 10 %), Ferruginous, Coarse (6 - 20 mm), Nodules;
	3.9 - 4.2 m	Red (2.5YR4/8-Moist); , 10YR78, 0-2% , 5-15mm; , 0-2% , 5-15mm; Sandy clay loam; Massive grade of structure; Very weak consistence; 2-10%, medium gravelly, 6-20mm, Sandstone, coarse fragments; Few (2 - 10 %), Ferruginous, Coarse (6 - 20 mm), Nodules; Gradual change to -
	4.2 - 4.5 m	Red (2.5YR5/8-Moist); ; Sandy clay loam (Heavy); Massive grade of structure; Weak consistence; 0-2%, coarse gravelly, 20-60mm, Sandstone, coarse fragments; Few (2 - 10 %), Ferruginous, Coarse (6 - 20 mm), Nodules;
	4.5 - 5 m	Red (2.5YR5/8-Moist); , 10YR78, 0-2% , Distinct; , 0-2% , Distinct; Sandy clay loam; Massive grade of structure; Weak consistence; 0-2%, coarse gravelly, 20-60mm, Sandstone, coarse fragments; Few (2 - 10 %), Ferruginous, Coarse (6 - 20 mm), Nodules;
	5 - 5.5 m	Red (2.5YR5/8-Moist); , 10R48, 10-20% , 15-30mm, Distinct; , 10YR88, 10-20% , 15-30mm, Distinct; Sandy medium clay; Massive grade of structure; Weak consistence;
C	5.5 - 6 m	Red (2.5YR5/8-Moist); , 10R48, 10-20% , 15-30mm, Distinct; , 10YR88, 10-20% , 15-30mm, Distinct; Sandy clay loam; Massive grade of structure; Moderately moist; Weak consistence; 2-10%, Sandstone, coarse fragments; Gradual change to -
	6 - 6.2 m	Reddish yellow (5YR6/6-Moist); , 10YR88, 10-20% ; , 10-20% ; Sandy clay loam (Light); Massive grade of structure; Weak consistence; Gradual change to -
	6.2 - 6.3 m	Reddish yellow (7.5YR7/6-Moist); , 10YR86; Sandy clay loam (Light); Massive grade of structure; Weak consistence;

Morphological Notes

Observation Notes

620-630CM WEATHERED SANDSTONE:

Site Notes

HEATHLANDS

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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	5.6A	0.035A	0.11B	0.1	0.07	0.07	1.9F	2.1C	2.3F	3.33
0.05 - 0.1	5.5A	0.029A								
0.1 - 0.2	5.5A	0.029A								
0.2 - 0.3	5.6A	0.02A	0.04B	0.05	0.05	0.05	1.7F	1.7C	1.9F	2.94
0.3 - 0.4	5.6A	0.023A								
0.4 - 0.5	5.7A	0.02A								
0.5 - 0.6	5.7A	0.026A	0.004B	0.11	0.09	0.05	0.7F	1C	1F	5.00
0.6 - 0.75	5.7A	0.023A								
0.75 - 0.9	5.7A	0.023A								
0.9 - 1.2	5.7A	0.02A	0.07B	0.24	0.08	0.05	1.5F	1.9C	1.9F	2.63
1.2 - 1.5	5.5A	0.026A								
1.5 - 1.8	5.5A	0.026A								
1.8 - 2.1	5.6A	0.02A	0.04B	0.33	0.08	0.05	2.2F	2.2C	2.7F	2.27
2.1 - 2.4	5.6A	0.023A								
2.4 - 2.7	5.4A	0.026A								
2.7 - 3	5.3A	0.023A								
3 - 3.3	5.3A	0.026A								
3.3 - 3.6	5.3A	0.023A								
3.6 - 3.9	5.3A	0.029A								
3.9 - 4.2	5.5A	0.029A								
4.2 - 4.5	5.5A	0.026A								
4.5 - 5	5.5A	0.029A								
5 - 5.5	5.7A	0.023A								
5.5 - 6	5.3A	0.029A								
6 - 6.2	5.5A	0.023A								
6.2 - 6.3	5.4A	0.026A								

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		0.56D	<2A <2B	0.003A	0.04A	0.02A		0	50A	37	2	11
0.05 - 0.1		0.52D			0.04A			0	42A	46	1	11
0.1 - 0.2								0	40A	37	1	12
0.2 - 0.3		0.24D	<2A <2B	0.004A	0.03A	0.02A		0	42A	43	2	14
0.3 - 0.4												
0.4 - 0.5								0	36A	49	1	14
0.5 - 0.6		0.08D	<2B	0.003A	0.01A	0.02A		0	45A	39	2	14
0.6 - 0.75								0	36A	48	1	16
0.75 - 0.9								0	35A	42	1	22
0.9 - 1.2			<2B	0.007A		0.03A		0	34A	31	2	34
1.2 - 1.5								0	26A	24	1	48
1.5 - 1.8												
1.8 - 2.1			<2B	0.013A		0.12A		0	24A	26	5	45
2.1 - 2.4												
2.4 - 2.7												
2.7 - 3								<2	22A	27	3	48
3 - 3.3												
3.3 - 3.6								26	26A	27	2	45

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3.6 - 3.9					
3.9 - 4.2	34	26A	23	5	46
4.2 - 4.5					
4.5 - 5	38	33A	20	5	42
5 - 5.5					
5.5 - 6	12	39A	16	5	30
6 - 6.2					
6.2 - 6.3	3	51A	24	4	20

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									
5 - 5.5									
5.5 - 6									
6 - 6.2									
6.2 - 6.3									

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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_AL	Citrate/dithionite-extractable iron, aluminium, Manganese and Silicon
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_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
15D1_CEC	CEC - 1M ammonium acetate at pH 7.0, pretreatment for soluble salts; manual leach
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
2A1	Air-dry moisture content
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
9B_9C	Available P (mg/kg) - Bicarbonate P - 0.5M NaHCO3 extractable
9G_BSES	Available P (mg/kg) - Acid P - 0.005M H2SO4 (BSES)
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 (%)