Project Name: **Regional**
Project Code: **REG** **Site ID:** **T143** **Observation ID:** **1**
Agency Name: **CSIRO Division of Soils (QLD)**

Site Information

Desc. By:	G. Smith	**Locality:**	2.2KM south of branch of Dillion Creek near Tandanus homestead:
Date Desc.:	25/08/70	**Elevation:**	No Data
Map Ref.:	Sheet No. : 8057 1:100000	**Rainfall:**	610
Northing/Long.:	145.816666666667	**Runoff:**	No Data
Easting/Lat.:	-20.1	**Drainage:**	Poorly drained

Geology

ExposureType:	Undisturbed soil core	**Conf. Sub. is Parent. Mat.:**	No Data
Geol. Ref.:	Tf	**Substrate Material:**	Undisturbed soil core, 1.8 m deep,Sandstone

Land Form

Rel/Slope Class:	Gently undulating plains <9m 1-3%	**Pattern Type:**	Plain
Morph. Type:	Ridge	**Relief:**	6 metres
Elem. Type:	Plain	**Slope Category:**	Very gently sloped
Slope:	<1 %	**Aspect:**	135 degrees

Surface Soil Condition (dry): Hardsetting

Erosion:

Soil Classification

Australian Soil Classification:
Melanic Mesotrophic Yellow Kandosol
ASC Confidence:
All necessary analytical data are available.

Mapping Unit: N/A
Principal Profile Form: Gn2.24
Great Soil Group: Yellow earth

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

Vegetation:

Mid Strata - Tree, 1.01-3m, Very sparse. *Species includes - Acacia species
Tall Strata - Tree, 3.01-6m, Sparse. *Species includes - Eucalyptus setosa, Melaleuca species

Surface Coarse Fragments: No surface coarse fragments

Profile Morphology

A11	0 - 0.1 m	Very dark grey (10YR3/1-Moist); Dark grey (10YR4/1-Dry); ; Loamy sand; Massive grade of structure; Dry; Very firm consistence; Few, fine (1-2mm) roots; Gradual change to -
A12	0.1 - 0.2 m	Black (10YR2/1-Moist); Grey (10YR5/1-Dry); ; Loamy sand; Massive grade of structure; Dry; Firm consistence; Few, fine (1-2mm) roots; Clear change to -
A21	0.2 - 0.3 m	Dark greyish brown (10YR4/2-Moist); Light brownish grey (10YR6/2-Dry); ; Sand (Heavy); Massive grade of structure; Dry; Firm consistence; Few, fine (1-2mm) roots; Gradual change to -
A22	0.3 - 0.4 m	Yellowish brown (10YR5/4-Moist); Pale brown (10YR6/3-Dry); ; Loamy sand; Massive grade of structure; Dry; Very firm consistence; Few, fine (1-2mm) roots; Clear change to -
B11	0.4 - 0.5 m	Yellowish brown (10YR5/4-Moist); ; Sandy loam (Heavy); Massive grade of structure; Dry; Very firm consistence; Gradual change to -
B12	0.5 - 0.6 m	Brownish yellow (10YR6/5-Moist); ; Sandy clay loam; Massive grade of structure; Earthy fabric; Dry; Very firm consistence; Gradual change to -
B12	0.6 - 0.7 m	Brownish yellow (10YR6/5-Moist); ; Sandy clay loam (Heavy); Massive grade of structure; Earthy fabric; Dry; Very firm consistence; Gradual change to -
B12	0.7 - 0.8 m	Brownish yellow (10YR6/5-Moist); ; Sandy clay loam (Heavy); Massive grade of structure; Earthy fabric; Dry; Very firm consistence; Gradual change to -
B21	0.8 - 0.9 m	Brownish yellow (10YR6/6-Moist); ; Sandy medium clay; Massive grade of structure; Earthy fabric; Dry; Very firm consistence; Gradual change to -
B21	0.9 - 1 m	Brownish yellow (10YR6/6-Moist); , 10YR76, 0-2% , 0-5mm; , 0-2% , 0-5mm; Sandy medium clay; Massive grade of structure; Dry; Very firm consistence; Gradual change to -
B22	1 - 1.1 m	Yellowish brown (10YR5/6-Moist); , 10YR76, 0-2% , 0-5mm; , 0-2% , 0-5mm; Sandy medium clay; Massive grade of structure; Earthy fabric; Dry; Very firm consistence; Gradual change to -

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B22	1.1 - 1.2 m	Yellowish brown (10YR5/6-Moist); ; Sandy medium clay; Massive grade of structure; Dry; Very firm consistence; Very few (0 - 2 %), Ferruginous, Coarse (6 - 20 mm), Concretions; Gradual change to -
	1.2 - 1.3 m	Brownish yellow (10YR6/6-Moist); , 10YR76, 0-2% , 0-5mm; , 0-2% , 0-5mm; Sandy medium clay; Massive grade of structure; Very firm consistence; Very few (0 - 2 %), Ferruginous, Coarse (6 - 20 mm), Concretions; Gradual change to -
	1.3 - 1.4 m	Brownish yellow (10YR6/5-Moist); , 10YR76, 0-2% , 0-5mm; , 10YR81, 0-2% , 0-5mm; Sandy medium clay; Massive grade of structure; Very firm consistence; Very few (0 - 2 %), Ferruginous, Coarse (6 - 20 mm), Concretions; Gradual change to -
	1.4 - 1.5 m	Brownish yellow (10YR6/5-Moist); , 10YR76, 0-2% , 0-5mm; , 10YR81, 0-2% , 0-5mm; Sandy medium clay; Massive grade of structure; Very firm consistence; Very few (0 - 2 %), Ferruginous, Coarse (6 - 20 mm), Concretions; Gradual change to -
	1.5 - 1.58 m	Brownish yellow (10YR6/6-Moist); , 10YR76; Sandy medium clay; Massive grade of structure; Very firm consistence; Common (10 - 20 %), Ferruginous, Very coarse (20 - 60 mm), Concretions; Sharp change to -
C	1.58 - 1.86 m	Light grey (2.5Y7/2-Moist); ; Sandy medium clay; Massive grade of structure; Dry; Very firm consistence; Many (20 - 50 %), Ferruginous, Coarse (6 - 20 mm), Concretions;

Morphological Notes

Observation Notes

158-186CM SOFT WEATHERED SST WITH SOME PALE BROWN SAND (PM?):

Site Notes

BALFE`S CK

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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 - 0.1	6.2A	0.026A	2.4B	0.59	0.16	0.06	2.9F		6.1F	
0.1 - 0.2	6.4A	0.02A	2.2B	0.56	0.13	0.04	2.8F		5.7F	
0.2 - 0.3	6.6A	0.017A	1.4B	0.34	0.09	0.02	2.8F		4.7F	
0.3 - 0.4	6.7A	0.014A	0.94B	0.3	0.13	0.05	2.4F		3.8F	
0.4 - 0.5	6.6A	0.017A	0.88B	0.34	0.2	0.03	2F		3.5F	
0.5 - 0.6	6.5A	0.017A								
0.6 - 0.7	6.4A	0.017A	1B	0.5	0.27	0.04	2.4F		4.2F	
0.7 - 0.8	6.3A	0.02A	1B	0.61	0.27	0.06				
0.8 - 0.9	5.8A	0.023A								
0.9 - 1	5.9A	0.029A								
1 - 1.1	5.9A	0.029A	1B	0.45	0.18	0.04	2.5F	2.48A	4.2F	1.61
1.1 - 1.2	6.3A	0.023A								
1.2 - 1.3	6.2A	0.02A	0.94B	1.1	0.14	0.11				
1.3 - 1.4	6.3A	0.02A								
1.4 - 1.5	6.3A	0.02A	0.78B	1.3	0.08	0.13	2.5F		4.8F	
1.5 - 1.58	6.5A	0.02A	0.74B	1.3	0.07	0.15	2.5F		4.8F	
1.58 - 1.86	6.8A	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 - 0.1		0.67D	4.2B	0.005A	0.04A	0.16A		5	60A	30	4	6
0.1 - 0.2		0.47D	2.6B	0.005A	0.02A	0.17A		4	58A	31	4	7
0.2 - 0.3		0.23D	2.6B	0.004A		0.17A		4	57A	32	4	7
0.3 - 0.4								4	62A	26	4	8
0.4 - 0.5				0.005A		0.19A		6	52A	30	4	14
0.5 - 0.6												
0.6 - 0.7								6	50A	26	4	20
0.7 - 0.8			<2B	0.005A		0.2A						
0.8 - 0.9												
0.9 - 1												
1 - 1.1								6	48A	21	3	28
1.1 - 1.2												
1.2 - 1.3												
1.3 - 1.4												
1.4 - 1.5				0.005A		0.16A		12	53A	17	2	27
1.5 - 1.58								24	62A	14	3	21
1.58 - 1.86												

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 - 0.1										
0.1 - 0.2										
0.2 - 0.3										
0.3 - 0.4										
0.4 - 0.5										
0.5 - 0.6										
0.6 - 0.7										

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0.7 - 0.8
0.8 - 0.9
0.9 - 1
1 - 1.1
1.1 - 1.2
1.2 - 1.3
1.3 - 1.4
1.4 - 1.5
1.5 - 1.58
1.58 - 1.86

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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_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
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_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