

**Project Name:** Regional  
**Project Code:** REG **Site ID:** T368 **Observation ID:** 1  
**Agency Name:** CSIRO Division of Soils (QLD)

**Site Information**

<b>Desc. By:</b>	M.G. Cannon	<b>Locality:</b>	
<b>Date Desc.:</b>	24/11/83	<b>Elevation:</b>	30 metres
<b>Map Ref.:</b>	Sheet No. : 8061 1:100000	<b>Rainfall:</b>	2250
<b>Northing/Long.:</b>	145.930555555556	<b>Runoff:</b>	Very slow
<b>Easting/Lat.:</b>	-18.163888888889	<b>Drainage:</b>	Poorly drained

**Geology**

<b>ExposureType:</b>	Undisturbed soil core	<b>Conf. Sub. is Parent. Mat.:</b>	No Data
<b>Geol. Ref.:</b>	QA	<b>Substrate Material:</b>	Unconsolidated material (unidentified)

**Land Form**

<b>Rel/Slope Class:</b>	Level plain <9m <1%	<b>Pattern Type:</b>	Plain
<b>Morph. Type:</b>	Flat	<b>Relief:</b>	No Data
<b>Elem. Type:</b>	Fan	<b>Slope Category:</b>	Level
<b>Slope:</b>	0.5 %	<b>Aspect:</b>	No Data

**Surface Soil Condition (dry):** Hardsetting

**Erosion:**

**Soil Classification**

<b>Australian Soil Classification:</b>		<b>Mapping Unit:</b>	N/A
Mottled Magnesic Grey Kandosol		<b>Principal Profile Form:</b>	Gn2.81
<b>ASC Confidence:</b>		<b>Great Soil Group:</b>	No suitable group

All necessary analytical data are available.

**Site Disturbance:** No effective disturbance. Natural

**Vegetation:** Low Strata - Tussock grass, 0.51-1m, Mid-dense. \*Species includes - Xanthorrhoea johnsonii  
Mid Strata - Tree, 3.01-6m, Very sparse. \*Species includes - Casuarina littoralis  
Tall Strata - Tree, 6.01-12m, Sparse. \*Species includes - Melaleuca viridiflora, Casuarina littoralis

**Surface Coarse Fragments:** 2-10%, fine gravelly, 2-6mm, subangular, Quartz

**Profile Morphology**

A	0 - 0.1 m	Very dark greyish brown (10YR3/2-Moist); Mottles, 0-0% ; Mottles, 0-0% ; Coarse sandy clay loam (Light); Massive grade of structure; Earthy fabric; Moderately moist; Very weak consistence; 2-10%, fine gravelly, 2-6mm, subangular, dispersed, Quartz, coarse fragments; Common, fine (1-2mm) roots; Gradual, Irregular change to -
AB	0.1 - 0.17 m	Dark grey (10YR4/1-Moist); Mottles, 10YR64, 20-50% , 15-30mm, Distinct; Mottles, 20-50% , 15-30mm, Distinct; Clay loam, coarse sandy (Light); Massive grade of structure; Earthy fabric; Moderately moist; Very weak consistence; 2-10%, fine gravelly, 2-6mm, subangular, dispersed, Quartz, coarse fragments; Common, fine (1-2mm) roots; Diffuse, Irregular change to -
B1	0.17 - 0.2 m	Light grey (10YR7/2-Moist); Mottles, 0-0% ; Mottles, 0-0% ; Clay loam, coarse sandy; Massive grade of structure; Earthy fabric; Moderately moist; Weak consistence; 2-10%, fine gravelly, 2-6mm, subangular, dispersed, Quartz, coarse fragments; Few, medium (2-5mm) roots;
B1	0.2 - 0.28 m	Light grey (10YR7/2-Moist); Mottles, 0-0% ; Mottles, 0-0% ; Clay loam, coarse sandy; Massive grade of structure; Earthy fabric; Moderately moist; Weak consistence; 2-10%, fine gravelly, 2-6mm, subangular, dispersed, Quartz, coarse fragments; Few, medium (2-5mm) roots; Clear, Smooth change to -
B21	0.28 - 0.3 m	Light brownish grey (2.5Y6/2-Moist); Mottles, 2.5Y68, 20-50% , 15-30mm, Distinct; Mottles, 20-50% , 15-30mm, Distinct; Sandy medium clay; Massive grade of structure; Earthy fabric; Moderately moist; Weak consistence; 2-10%, fine gravelly, 2-6mm, subangular, dispersed, Quartz, coarse fragments; Few, medium (2-5mm) roots;
B21	0.3 - 0.45 m	Light brownish grey (2.5Y6/2-Moist); Mottles, 2.5Y68, 20-50% , 15-30mm, Distinct; Mottles, 20-50% , 15-30mm, Distinct; Sandy medium clay; Massive grade of structure; Earthy fabric; Moderately moist; Weak consistence; 2-10%, fine gravelly, 2-6mm, subangular, dispersed, Quartz, coarse fragments; Few, medium (2-5mm) roots; Diffuse, Irregular change to -
B22	0.45 - 0.6 m	Grey (10YR6/1-Moist); Mottles, 2.5Y68, 10-20% , 15-30mm, Distinct; Mottles, 2.5YR48, 10-20% , 15-30mm, Distinct; Sandy medium clay; Massive grade of structure; Earthy fabric; Moderately moist; Firm consistence; 2-10%, fine gravelly, 2-6mm, subangular, dispersed, Quartz, coarse fragments; Few, fine (1-2mm) roots;

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B22	0.6 - 0.9 m	Grey (10YR6/1-Moist); Mottles, 2.5Y68, 10-20% , 15-30mm, Distinct; Mottles, 2.5YR48, 10-20% , 15-30mm, Distinct; Sandy medium clay; Massive grade of structure; Earthy fabric; Moderately moist; Firm consistence; 2-10%, fine gravelly, 2-6mm, subangular, dispersed, Quartz, coarse fragments; Few, fine (1-2mm) roots; Diffuse, Irregular change to -
B23	0.9 - 1.2 m	Light grey (10YR7/1-Moist); Mottles, 2.5Y68, 20-50% , 15-30mm, Distinct; Mottles, 20-50% , 15-30mm, Distinct; Sandy medium clay; Massive grade of structure; Earthy fabric; Moderately moist; Firm consistence; 20-50%, medium gravelly, 6-20mm, subangular, dispersed, Quartz, coarse fragments;
B23	1.2 - 1.5 m	Light grey (10YR7/1-Moist); Mottles, 2.5Y68, 20-50% , 15-30mm, Distinct; Mottles, 20-50% , 15-30mm, Distinct; Sandy medium clay; Massive grade of structure; Earthy fabric; Moderately moist; Firm consistence; 20-50%, medium gravelly, 6-20mm, subangular, dispersed, Quartz, coarse fragments; Gradual, Irregular change to -
2B	1.5 - 1.8 m	Light grey (10YR7/1-Moist); Mottles, 10YR68, 20-50% , 15-30mm, Distinct; Mottles, 20-50% , 15-30mm, Distinct; Medium heavy clay; Massive grade of structure; Earthy fabric; Moderately moist; Very firm consistence; 50-90%, medium gravelly, 6-20mm, subangular, dispersed, Quartz, coarse fragments;
2B	1.8 - 2 m	Light grey (10YR7/1-Moist); Mottles, 10YR68, 20-50% , 15-30mm, Distinct; Mottles, 20-50% , 15-30mm, Distinct; Medium heavy clay; Massive grade of structure; Earthy fabric; Moderately moist; Very firm consistence; 50-90%, medium gravelly, 6-20mm, subangular, dispersed, Quartz, coarse fragments;

#### **Morphological Notes**

#### **Observation Notes**

THE DENSE 15-20CM LAYER AT BASE HAS A BLOCKY STRUCTURE WITH COARSE SAND BETWEEN UNITS:

#### **Site Notes**

**Laboratory Test Results:**

Depth	CaCO3	Organic	Avail.	Total	Total	Total	Bulk	Particle		Size	Analysis	
m	%	C	P	P	N	K	Density	GV	CS	FS	Silt	Clay
		%	mg/kg	%	%	%	Mg/m3			%		
0 - 0.1		1.22C	4B	0.005A	0.06A	2.98A		1	65A	15	11	10
0.1 - 0.17		0.76C			0.05A			7	52A	21	13	14
0.17 - 0.2								8	47A	23	15	16
0.2 - 0.28		0.33C	3B	0.002A	0.02A	3.66A		7	47A	22	14	16
0.28 - 0.3								10	41A	25	15	19
0.3 - 0.45		0.14C	2B	0.002A		3.62A		9	40A	24	13	22
0.45 - 0.6								10	43A	23	15	20
0.6 - 0.9								11	47A	21	12	20
0.9 - 1.2								22	60A	14	6	21
1.2 - 1.5		0.05C	2B	0.003A		2.82A		46	48A	18	11	23
1.5 - 1.8								36	44A	13	11	31
1.8 - 2				0.003A		2.32A		16	41A	15	7	38

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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/HClO <sub>4</sub> Digest
12_HF_FE	Total element - Fe(%) - HF/HClO <sub>4</sub> Digest
12_HF_MN	Total element - Mn(mg/kg) - HF/HClO <sub>4</sub> Digest
12_HF_ZN	Total element - Zn(mg/kg) - HF/HClO <sub>4</sub> Digest
13C1_FE	Citrate/dithionite-extractable iron, aluminium, Manganese and Silicon
15A2_CEC	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
15E1_CA	Exchangeable bases (Ca <sup>2+</sup> ,Mg <sup>2+</sup> ,Na <sup>+</sup> ,K <sup>+</sup> ) by compulsive exchange, no pretreatment for soluble salts
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
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
6B3	Total organic carbon - high frequency induction furnace, infrared
7A2	Total nitrogen - semimicro Kjeldahl , automated colour
9A1	Total phosphorus - X-ray fluorescence
9G_BSES	Available P (mg/kg) - Acid P - 0.005M H <sub>2</sub> SO <sub>4</sub> (BSES)
9H1	Phosphate retention
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 (%)