

Project Name: Regional
Project Code: REG **Site ID:** T179 **Observation ID:** 1
Agency Name: CSIRO Division of Soils (QLD)

Site Information

Desc. By:	G. Smith	Locality:	4.2KM NW from Lakefield turn on Kennedy Highway 5.8KM NW of Laura PostOffice:
Date Desc.:	05/11/70	Elevation:	No Data
Map Ref.:	Sheet No. : 7766 1:100000	Rainfall:	910
Northing/Long.:	144.395833333333	Runoff:	Slow
Easting/Lat.:	-15.5375	Drainage:	Imperfectly drained

Geology

Exposure Type:	Undisturbed soil core	Conf. Sub. is Parent. Mat.:	No Data
Geol. Ref.:	QaQs	Substrate Material:	No Data

Land Form

Rel/Slope Class:	Gently undulating plains <9m 1-3%	Pattern Type:	Plain
Morph. Type:	Simple-slope	Relief:	6 metres
Elem. Type:	Plain	Slope Category:	Very gently sloped
Slope:	0 %	Aspect:	No Data

Surface Soil Condition (dry): Firm

Erosion:

Soil Classification

Australian Soil Classification:		Mapping Unit:	N/A
Bleached-Ferric Mesotrophic Yellow Kandosol		Principal Profile Form:	Gn2.94
ASC Confidence:		Great Soil Group:	Grey earth

All necessary analytical data are available.

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

Vegetation:

Tall Strata - Tree, 12.01-20m, Sparse. *Species includes - Eucalyptus tetrodonta, Eucalyptus polycarpa

Surface Coarse Fragments: No surface coarse fragments

Profile Morphology

A11	0 - 0.02 m	Dark grey (10YR4/1-Moist); Grey (10YR6/1-Dry); ; Sandy loam; Massive grade of structure; Dry; Strong consistence; Abrupt change to -
A2	0.02 - 0.1 m	Brown (10YR5/3-Moist); Grey (10YR6/1-Dry); ; Sandy loam (Light); Massive grade of structure; Dry; Rigid consistence; Gradual change to -
A2	0.1 - 0.2 m	Brown (10YR5/3-Moist); Light grey (10YR7/1-Dry); , 10YR76, 0-2% , 0-5mm; , 10YR81, 0-2% , 0-5mm; Sandy loam (Light); Massive grade of structure; Dry; Rigid consistence; Very few (0 - 2 %), Manganiferous, Coarse (6 - 20 mm), Nodules; Gradual change to -
A2	0.2 - 0.3 m	Pale brown (10YR6/3-Moist); Light grey (10YR7/2-Dry); ; Sandy loam; Massive grade of structure; Dry; Rigid consistence; Gradual change to -
B1	0.3 - 0.4 m	Pale yellow (2.5Y7/4-Moist); , 2.5Y88, 2-10% , 5-15mm, Distinct; , N80, 2-10% , 5-15mm, Distinct; Sandy clay loam (Light); Massive grade of structure; Dry; Very strong consistence; Few (2 - 10 %), Manganiferous, Coarse (6 - 20 mm), Nodules; Gradual change to -
B1	0.4 - 0.5 m	Light yellowish brown (2.5Y6/4-Moist); , 2.5Y88, 2-10% , 5-15mm, Faint; , 2-10% , 5-15mm, Faint; Sandy clay loam; Massive grade of structure; Dry; Very strong consistence; Gradual change to -
B1	0.5 - 0.6 m	Light yellowish brown (2.5Y6/4-Moist); , 2.5Y88, 2-10% , 5-15mm, Faint; , 2-10% , 5-15mm, Faint; Sandy clay loam; Massive grade of structure; Dry; Very strong consistence; Few (2 - 10 %), Manganiferous, , Nodules; Gradual change to -
B1	0.6 - 0.7 m	Pale yellow (2.5Y7/4-Moist); , 2.5Y88, 2-10% , 5-15mm, Faint; , 2-10% , 5-15mm, Faint; Sandy clay loam (Heavy); Massive grade of structure; Dry; Very strong consistence; Common (10 - 20 %), Manganiferous, Coarse (6 - 20 mm), Nodules; Gradual change to -
B1	0.7 - 0.8 m	Pale yellow (2.5Y7/4-Moist); , 2.5Y88, 2-10% , 5-15mm, Faint; , 2-10% , 5-15mm, Faint; Sandy clay loam (Heavy); Massive grade of structure; Dry; Very strong consistence; Many (20 - 50 %), Manganiferous, Coarse (6 - 20 mm), Nodules; Clear change to -
B2	0.8 - 0.9 m	Pale yellow (2.5Y7/4-Moist); ; Sandy medium clay; Massive grade of structure; Dry; Very strong consistence; Many (20 - 50 %), Ferruginous, Coarse (6 - 20 mm), Nodules; Gradual change to -

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B2	0.9 - 1.2 m	Pale yellow (2.5Y7/3-Moist); ; Sandy light clay (Light); Massive grade of structure; Dry; Very strong consistence; Many (20 - 50 %), Ferruginous, Coarse (6 - 20 mm), Nodules; Gradual change to -
B2	1.2 - 1.5 m	Pale yellow (2.5Y7/3-Moist); ; Sandy light clay (Light); Massive grade of structure; Dry; Very strong consistence; , Ferruginous, Coarse (6 - 20 mm), Nodules; Gradual change to -
C	1.5 - 1.8 m	Pale yellow (2.5Y7/3-Moist); ; Sandy medium clay (Light); Massive grade of structure; Dry; Very strong consistence; , Ferruginous, Coarse (6 - 20 mm), Nodules; Gradual change to -
	1.8 - 2.1 m	Yellow (10YR7/5-Moist); ; Sandy medium clay (Heavy); Massive grade of structure; Very strong consistence; , Ferruginous, Coarse (6 - 20 mm), Nodules; Gradual change to -
	2.1 - 2.4 m	Yellowish brown (10YR5/6-Moist); , 10YR71, 20-50% , 30-mm, Prominent; , 20-50% , 30-mm, Prominent; Sandy medium clay (Heavy); Massive grade of structure; Very strong consistence; 10-20%, medium gravelly, 6-20mm, subangular, Quartz, coarse fragments; Few (2 - 10 %), Ferruginous, Coarse (6 - 20 mm), Nodules; Gradual change to -
	2.4 - 2.7 m	Light grey (10YR7/1-Moist); , 10YR66, 20-50% , 30-mm, Prominent; , 2.5YR36, 20-50% , 30-mm, Prominent; Sandy medium clay (Heavy); Weak grade of structure, 20-50 mm, Angular blocky; Rigid consistence; 10-20%, medium gravelly, 6-20mm, subangular, Quartz, coarse fragments; Gradual change to -
	2.7 - 3 m	Brownish yellow (10YR6/6-Moist); , 10YR71, 20-50% , 30-mm, Prominent; , 2.5YR36, 20-50% , 30-mm, Prominent; Sandy medium clay (Heavy); Weak grade of structure, 20-50 mm, Angular blocky; Common (1-5 per 100mm ²) Fine (1-2mm) macropores, Rigid consistence;

Morphological Notes

Observation Notes

60-70CM <20% <20MM FE NODS ALSO:80-120CM <10% MN NODS ALSO:

Site Notes

LAURA

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Laboratory Test Results:

Depth m	pH	1:5 EC dS/m	Ca	Exchangeable Cations			Na Cmol (+)/kg	Exchangeable Acidity	CEC	ECEC	ESP %
				Mg	K						
0 - 0.02	5.8A	0.041A	1.6B	0.56	0.16		0.17	3F		5.5F	
0.02 - 0.1	6.1A	0.02A	0.8B	0.3	0.06		0.14	1.9F		3.2F	
0.1 - 0.2	6.1A	0.011A	0.32B	0.16	0.04		0.14	1.2F		1.9F	
0.2 - 0.3	6.2A	0.011A	0.26B	0.08	0.03		0.12	0.8F		1.3F	
0.3 - 0.4	6.3A	0.011A	0.32B	0.2	0.04		0.14	0.8F		1.5F	
0.4 - 0.5	6.5A	0.011A	0.46B	0.45	0.04		0.12	0.8F		1.9F	
0.5 - 0.6	6.5A	0.011A									
0.6 - 0.7	6.3A	0.017A	0.32B	0.69	0.08		0.12	0.5F		1.7F	
0.7 - 0.8	6.8A	0.011A									
0.8 - 0.9	6.4A	0.014A	0.26B	1	0.05		0.17	0.8F		2.3F	
0.9 - 1.2	6.2A	0.02A	0.22B	1.5	0.09		0.18	1.1F		3.1F	
1.2 - 1.5	6.6A	0.011A	0.26B	1.6	0.06		0.18	1F		3.1F	
1.5 - 1.8	6.6A	0.014A	0.18B	1.8	0.06		0.14	0.9F		3.1F	
1.8 - 2.1	6.7A	0.014A									
2.1 - 2.4	6.6A	0.02A	0.12B	2.3	0.04		0.22	0.8F		3.5F	
2.4 - 2.7	7A	0.017A									
2.7 - 3	6.9A	0.026A	0.18B	2.8	0.03		0.4	0.4F		3.8F	

Depth m	CaCO3 %	Organic C %	Avail. P mg/kg	Total P %	Total N %	Total K %	Bulk Density Mg/m3	Particle GV CS		Size FS %	Analysis	
								GV	CS		Silt	Clay
0 - 0.02		1.23D	6.6B	0.006A	0.09A	0.13A		0	52A	33	12	3
0.02 - 0.1		0.55D	4.2B	0.006A	0.05A	0.15A		0	51A	32	13	4
0.1 - 0.2		0.26D	4.2B	0.006A		0.17A		0	52A	30	10	7
0.2 - 0.3		0.17D						<2	47A	34	13	5
0.3 - 0.4		0.09D			0.01A			<2	46A	32	14	8
0.4 - 0.5				0.005A		0.36A		8	45A	30	14	11
0.5 - 0.6												
0.6 - 0.7			3.8B	0.007A		0.51A		18	46A	28	12	14
0.7 - 0.8												
0.8 - 0.9								22	50A	21	11	19
0.9 - 1.2								52	41A	23	12	24
1.2 - 1.5				0.009A		0.72A		28	41A	21	14	23
1.5 - 1.8								38	36A	24	16	25
1.8 - 2.1												
2.1 - 2.4								26	45A	17	13	26
2.4 - 2.7												
2.7 - 3								8	43A	19	13	25

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0.6 - 0.7

0.7 - 0.8

0.8 - 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

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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
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 - Mineralogy
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_II 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