Project Name: **Regional**
Project Code: **REG** **Site ID:** **T129** **Observation ID:** **1**
Agency Name: **CSIRO Division of Soils (QLD)**

Site Information

Desc. By:	R.F. Isbell	**Locality:**	Opposite Comalco turnoff on Moreton/Jardine Road:
Date Desc.:	13/07/70	**Elevation:**	No Data
Map Ref.:	Sheet No. : 7374 1:100000	**Rainfall:**	1680
Northing/Long.:	142.45	**Runoff:**	Moderately rapid
Easting/Lat.:	-11.65	**Drainage:**	Moderately well drained

Geology

ExposureType:	Undisturbed soil core	**Conf. Sub. is Parent. Mat.:**	No Data
Geol. Ref.:	Jkb	**Substrate Material:**	Undisturbed soil core, 5.9 m deep,Sandstone

Land Form

Rel/Slope Class:	Undulating rises 9-30m 3-10%	**Pattern Type:**	Rises
Morph. Type:	Crest	**Relief:**	15 metres
Elem. Type:	Hillcrest	**Slope Category:**	No Data
Slope:	0 %	**Aspect:**	No Data

Surface Soil Condition (dry): Loose

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 - Tussock grass, 0.26-0.5m, Very sparse. *Species includes - None recorded
Mid Strata - Tree, 3.01-6m, Very sparse. *Species includes - Panicum species, Acacia species
Tall Strata - Tree, 12.01-20m, Sparse. *Species includes - Eucalyptus tetrodonta, Eucalyptus polycarpa, Grevillea glauca

Surface Coarse Fragments: No surface coarse fragments

Profile Morphology

A11A12	0 - 0.05 m	Very dark greyish brown (10YR3/2-Moist); Brown (10YR4/3-Dry); ; Loamy sand; Single grain grade of structure; Dry; Loose consistence; Clear change to -
A12	0.05 - 0.1 m	Dark brown (7.5YR3/4-Moist); Brown (7.5YR4/4-Dry); ; Loamy sand; Single grain grade of structure; Dry; Loose consistence; Gradual change to -
A21	0.1 - 0.2 m	Reddish brown (5YR4/4-Moist); Yellowish red (5YR4/6-Dry); ; Sandy loam; Single grain grade of structure; Moderately moist; Weak consistence; Gradual change to -
A22	0.2 - 0.3 m	Yellowish red (5YR4/6-Moist); ; Sandy loam; Single grain grade of structure; Many (>5 per 100mm2) Fine (1-2mm) macropores, Moderately moist; Weak consistence; Gradual change to -
A23	0.3 - 0.4 m	Yellowish red (5YR4/6-Moist); ; Loamy sand; Single grain grade of structure; Many (>5 per 100mm2) Fine (1-2mm) macropores, Moderately moist; Weak consistence; Gradual change to -
B1	0.4 - 0.5 m	Red (2.5YR4/6-Moist); ; Sandy loam; Massive grade of structure; Many (>5 per 100mm2) Fine (1-2mm) macropores, Moderately moist; Weak consistence; Gradual change to -
B1	0.5 - 0.6 m	Red (2.5YR5/8-Moist); ; Sandy loam; Massive grade of structure; Moderately moist; Weak consistence; Gradual change to -
B1	0.6 - 0.7 m	Red (2.5YR4/7-Moist); ; Sandy loam; Massive grade of structure; Moderately moist; Weak consistence; Gradual change to -
B21	0.7 - 0.8 m	Red (2.5YR4/8-Moist); , 10YR68, 0-2% , 5-15mm, Distinct; , 0-2% , 5-15mm, Distinct; Sandy loam; Massive grade of structure; Moderately moist; Weak consistence; Gradual change to -
B21	0.8 - 0.9 m	Red (2.5YR4/8-Moist); , 10YR68, 2-10% , 5-15mm, Distinct; , 2-10% , 5-15mm, Distinct; Sandy loam; Massive grade of structure; Moderately moist; Weak consistence; Gradual change to -
B21	0.9 - 1.05 m	Red (2.5YR4/8-Moist); , 10YR68, 2-10% , 5-15mm, Distinct; , 2-10% , 5-15mm, Distinct; Sandy loam; Massive grade of structure; Moderately moist; Very weak consistence; Gradual change to -

Project Name: Regional
Project Code: REG **Site ID:** T129 **Observation ID:** 1
Agency Name: CSIRO Division of Soils (QLD)

B22	1.05 - 1.2 m	Red (2.5YR4/8-Moist); , 10YR68, 10-20% , 5-15mm, Distinct; , 10-20% , 5-15mm, Distinct; Sandy clay loam (Light); Massive grade of structure; Moderately moist; Very weak consistence; Gradual change to -
B22	1.2 - 1.35 m	Red (2.5YR4/8-Moist); , 10YR68, 10-20% , 5-15mm, Distinct; , 10-20% , 5-15mm, Distinct; Sandy clay loam; Massive grade of structure; Moderately moist; Very weak consistence; Gradual change to -
B22	1.35 - 1.5 m	Red (2.5YR4/8-Moist); , 10YR68, 10-20% , 5-15mm, Distinct; , 10-20% , 5-15mm, Distinct; Sandy clay loam; Massive grade of structure; Moderately moist; Very weak consistence; Gradual change to -
	1.5 - 1.65 m	Red (2.5YR4/8-Moist); , 10YR68, 10-20% , 5-15mm, Distinct; , 10-20% , 5-15mm, Distinct; Sandy clay loam; Massive grade of structure; Very weak consistence; Gradual change to -
	1.65 - 1.8 m	Red (2.5YR4/8-Moist); , 10YR68, 10-20% , 15-30mm, Prominent; , 10-20% , 15-30mm, Prominent; Sandy clay loam; Massive grade of structure; Very weak consistence; Gradual change to -
	1.8 - 2.1 m	Red (2.5YR4/8-Moist); , 10YR68, 10-20% , 15-30mm, Prominent; , 5YR58, 10-20% , 15-30mm, Prominent; Sandy clay loam (Heavy); Massive grade of structure; Firm consistence; Gradual change to -
	2.1 - 2.4 m	Red (10R4/8-Moist); , 5YR58, 10-20% , 5-15mm, Distinct; , 10YR68, 10-20% , 5-15mm, Distinct; Sandy clay loam (Heavy); Massive grade of structure; Firm consistence; Gradual change to -
	2.4 - 2.7 m	Red (10R4/8-Moist); , 10YR68, 10-20% , 15-30mm, Prominent; , 5YR58, 10-20% , 15-30mm, Prominent; Sandy clay loam (Heavy); Massive grade of structure; Weak consistence; Gradual change to -
	2.7 - 3 m	Red (10R4/8-Moist); , 10YR68, 2-10% , 5-15mm, Distinct; , 5YR58, 2-10% , 5-15mm, Distinct; Sandy clay loam (Heavy); Massive grade of structure; Weak consistence; Gradual change to -
	3 - 3.3 m	Red (10R4/8-Moist); , 10YR68, 0-2% , 5-15mm, Distinct; , 0-2% , 5-15mm, Distinct; Sandy clay loam (Heavy); Massive grade of structure; Weak consistence; Gradual change to -
	3.3 - 3.6 m	Red (10R4/8-Moist); , 10YR68, 0-2% , 5-15mm, Distinct; , 0-2% , 5-15mm, Distinct; Sandy clay loam (Heavy); Massive grade of structure; Weak consistence; Gradual change to -
	3.6 - 4.1 m	Red (10R4/8-Moist); ; Sandy clay loam (Heavy); Massive grade of structure; Weak consistence; Gradual change to -
	4.1 - 4.6 m	Red (10R4/8-Moist); ; Sandy clay loam (Heavy); Massive grade of structure; Weak consistence; Common (10 - 20 %), Ferruginous, Medium (2 -6 mm), Nodules; Clear change to -
	4.6 - 4.85 m	Red (10R4/8-Moist); ; Sandy loam (Heavy); Massive grade of structure; Weak consistence; Many (20 - 50 %), Ferruginous, Very coarse (20 - 60 mm), Nodules; Gradual change to -
	4.85 - 5.1 m	Red (2.5YR4/8-Moist); ; Sandy loam; Massive grade of structure; Weak consistence; 0-2%, angular platy, Sandstone, coarse fragments; Many (20 - 50 %), Ferruginous, Very coarse (20 - 60 mm), Nodules; Gradual change to -
	5.1 - 5.6 m	Red (2.5YR4/8-Moist); ; Sandy loam (Light); Massive grade of structure; Very weak consistence; 10-20%, coarse gravelly, 20-60mm, angular, Sandstone, coarse fragments; Few (2 - 10 %), Ferruginous, Coarse (6 - 20 mm), Nodules; Gradual change to -
C	5.6 - 5.95 m	Reddish yellow (5YR6/8-Moist); ; Loamy coarse sand; Massive grade of structure; Moist; Very weak consistence; 10-20%, coarse gravelly, 20-60mm, angular, Sandstone, coarse fragments; Many (20 - 50 %), Ferruginous, Coarse (6 - 20 mm), Nodules; Gradual change to -
	5.95 - 6.05 m	Reddish yellow (7.5YR7/6-Moist); , 10YR68; , 10YR86; Clayey coarse sand; Massive grade of structure; Very weak consistence; 20-50%, fine gravelly, 2-6mm, Quartz, coarse fragments;

Morphological Notes

Observation Notes

1-2CMS DARKER SURFACE:20-60CM A1 MATERIAL DOWN WORM CASTS:595-+CM MOTTLED COARSE SST:

Site Notes

HEATHLANDS

Project Name: Regional
Project Code: REG **Site ID:** T129 **Observation ID:** 1
Agency Name: CSIRO Division of Soils (QLD)

Laboratory Test Results:

Depth (m)	pH	1:5 EC (dS/m)	Exchangeable Cations Ca	Mg	K	Na (Cmol (+)/kg)	Exchangeable Acidity	CEC	ECEC	ESP (%)
0 - 0.05	5.4A	0.017A	0.53B	0.33	0.05	0.11	4.5F	5.5C	5.5F	2.00
0.05 - 0.1	5.5A	0.023A								
0.1 - 0.2	5.4A	0.026A								
0.2 - 0.3	5.4A	0.017A	0.07B	0.16	0.02	0.05	3F	3.3C	3.3F	1.52
0.3 - 0.4	5.5A	0.017A								
0.4 - 0.5	5.8A	0.017A								
0.5 - 0.6	5.8A	0.02A	0.07B	0.21	0.03	0.07	1.7F	2.1C	2.1F	3.33
0.6 - 0.7	5.8A	0.017A								
0.7 - 0.8	5.7A	0.02A								
0.8 - 0.9	5.8A	0.014A								
0.9 - 1.05	5.8A	0.017A								
1.05 - 1.2	5.8A	0.017A	0.07B	0.37	0.04	0.05	0.6F	1.1C	1.1F	4.55
1.2 - 1.35	5.7A	0.017A								
1.35 - 1.5	5.7A	0.017A								
1.5 - 1.65	5.7A	0.017A								
1.65 - 1.8	5.7A	0.02A								
1.8 - 2.1	5.7A	0.017A	0.04B	0.39	0.04	0.06	1.1F	1.1C	1.6F	5.45
2.1 - 2.4	5.7A	0.017A								
2.4 - 2.7	5.7A	0.02A								
2.7 - 3	5.8A	0.023A								
3 - 3.3	5.8A	0.026A								
3.3 - 3.6	6A	0.029A								
3.6 - 4.1	5.6A	0.029A								
4.1 - 4.6	5.8A	0.026A								
4.6 - 4.85	5.8A	0.029A								
4.85 - 5.1	5.5A	0.023A								
5.1 - 5.6	5.6A	0.029A								
5.6 - 5.95	5.5A	0.029A								
5.95 - 6.25	5.6A	0.026A								

Depth (m)	CaCO3 (%)	Organic C (%)	Avail. P (mg/kg)	Total P (%)	Total N (%)	Total K (%)	Bulk Density (Mg/m3)	Particle Size Analysis GV	CS	FS (%)	Silt	Clay
0 - 0.05		1.3D	<2A <2B	0.004A	0.06A	0.01A		0	65A	23	3	8
0.05 - 0.1		0.89D			0.05A			0	63A	25	1	12
0.1 - 0.2								0	58A	29	1	12
0.2 - 0.3		0.52D	<2A <2B	0.005A	0.04A	0.01A		0	68A	19	1	12
0.3 - 0.4								0	52A	32	0	16
0.4 - 0.5												
0.5 - 0.6			<2B	0.004A		0.01A		0	65A	21	1	14
0.6 - 0.7												
0.7 - 0.8												
0.8 - 0.9								0	54A	30	1	16
0.9 - 1.05												
1.05 - 1.2			<2B	0.006A		0.02A		0	63A	19	1	18
1.2 - 1.35								0	53A	23	1	23
1.35 - 1.5												
1.5 - 1.65												

Project Name: Regional
Project Code: REG **Site ID:** T129 **Observation ID:** 1
Agency Name: CSIRO Division of Soils (QLD)

1.65 - 1.8								
1.8 - 2.1	<2B	0.007A	0.02A	0	55A	20	9	16
2.1 - 2.4								
2.4 - 2.7								
2.7 - 3								
3 - 3.3				0	46A	24	1	30
3.3 - 3.6								
3.6 - 4.1								
4.1 - 4.6								
4.6 - 4.85				60	42A	35	2	22
4.85 - 5.1				54	49A	31	2	18
5.1 - 5.6								
5.6 - 5.95				40	66A	19	2	13
5.95 - 6.25				41	70A	13	1	16

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 - 0.7										
0.7 - 0.8										
0.8 - 0.9										
0.9 - 1.05										
1.05 - 1.2										
1.2 - 1.35										
1.35 - 1.5										
1.5 - 1.65										
1.65 - 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 - 4.1										
4.1 - 4.6										
4.6 - 4.85										
4.85 - 5.1										
5.1 - 5.6										
5.6 - 5.95										
5.95 - 6.25										

Project Name: Regional
Project Code: REG **Site ID:** T129 **Observation ID:** 1
Agency Name: CSIRO Division of Soils (QLD)

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_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_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
5A2	Chloride - 1:5 soil/water extract, automated colour
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 (%)