

**Project Name:** Regional  
**Project Code:** REG **Site ID:** T219 **Observation ID:** 1  
**Agency Name:** CSIRO Division of Soils (QLD)

#### Site Information

<b>Desc. By:</b>	G.G. Murtha	<b>Locality:</b>	50M north of small gully along track running north from Bentley front grate:
<b>Date Desc.:</b>	05/12/73	<b>Elevation:</b>	12 metres
<b>Map Ref.:</b>	Sheet No. : 8259 1:100000	<b>Rainfall:</b>	1140
<b>Northing/Long.:</b>	146.941666666667	<b>Runoff:</b>	Slow
<b>Easting/Lat.:</b>	-19.3819444444445	<b>Drainage:</b>	Imperfectly drained

#### Geology

<b>Exposure Type:</b>	Undisturbed soil core	<b>Conf. Sub. is Parent. Mat.:</b>	No Data
<b>Geol. Ref.:</b>	Qa	<b>Substrate Material:</b>	No Data

#### Land Form

<b>Rel/Slope Class:</b>	Level plain <9m <1%	<b>Pattern Type:</b>	Alluvial plain
<b>Morph. Type:</b>	Flat	<b>Relief:</b>	0 metres
<b>Elem. Type:</b>	Plain	<b>Slope Category:</b>	Level
<b>Slope:</b>	0 %	<b>Aspect:</b>	No Data

**Surface Soil Condition (dry):** Self-mulching

#### Erosion:

#### Soil Classification

<b>Australian Soil Classification:</b>	Haplic Self-Mulching Aquic Vertosol	<b>Mapping Unit:</b>	N/A
<b>ASC Confidence:</b>	All necessary analytical data are available.	<b>Principal Profile Form:</b>	Ug5.16
		<b>Great Soil Group:</b>	Black earth

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

**Vegetation:** Low Strata - Tussock grass, <0.25m, Very sparse. \*Species includes - None recorded

**Surface Coarse Fragments:** No surface coarse fragments

#### Profile Morphology

A1	0 - 0.1 m	Very dark grey (10YR3/1-Moist); ; Heavy clay; Moderate grade of structure, 10-20 mm, Angular blocky; Dry; Very strong consistence; 0-2%, medium gravelly, 6-20mm, rounded, Gravel, coarse fragments;
B21	0.1 - 0.2 m	Very dark grey (10YR3/1-Moist); ; Heavy clay; Moderate grade of structure, 20-50 mm, Angular blocky; Dry; Very strong consistence; 0-2%, medium gravelly, 6-20mm, rounded, Gravel, coarse fragments; Few (2 - 10 %), Gypseous, Coarse (6 - 20 mm), Concretions;
B21	0.2 - 0.3 m	Very dark grey (10YR3/1-Moist); ; Heavy clay; Moderate grade of structure, 20-50 mm, Angular blocky; Strong grade of structure; Dry; Very strong consistence; 0-2%, medium gravelly, 6-20mm, rounded, Gravel, coarse fragments; Few (2 - 10 %), Gypseous, Coarse (6 - 20 mm), Concretions;
B22	0.3 - 0.6 m	Very dark grey (10YR3/1-Moist); ; Heavy clay; Strong grade of structure, 10-20 mm, Angular blocky; Dry; Very strong consistence; 0-2%, medium gravelly, 6-20mm, rounded, Gravel, coarse fragments; Few (2 - 10 %), Ferromanganiferous, Medium (2 -6 mm), Nodules; Few (2 - 10 %), Gypseous, Coarse (6 - 20 mm), Concretions;
B22	0.6 - 0.9 m	Very dark grey (10YR3/1-Moist); ; Heavy clay; Strong grade of structure, 10-20 mm, Angular blocky; Dry; Very strong consistence; 0-2%, medium gravelly, 6-20mm, rounded, Gravel, coarse fragments; Few (2 - 10 %), Ferromanganiferous, Medium (2 -6 mm), Nodules; Few (2 - 10 %), Gypseous, Coarse (6 - 20 mm), Concretions;
B23	0.9 - 1.2 m	Dark grey (10YR4/1-Moist); ; Heavy clay; Strong grade of structure, 20-50 mm, Angular blocky; Moist; Very firm consistence; Few (2 - 10 %), Ferromanganiferous, Medium (2 -6 mm), Nodules; Very few (0 - 2 %), Gypseous, Coarse (6 - 20 mm), Concretions;
B23	1.2 - 1.5 m	Dark grey (10YR4/1-Moist); ; Heavy clay; Strong grade of structure, 20-50 mm, Angular blocky; Moist; Very firm consistence; Few (2 - 10 %), Ferromanganiferous, Medium (2 -6 mm), Nodules; Very few (0 - 2 %), Gypseous, Coarse (6 - 20 mm), Concretions;
	1.5 - 1.8 m	Grey (10YR5/1-Moist); , 10YR6.4, 2-10% , 0-5mm, Faint; , 2-10% , 0-5mm, Faint; Heavy clay; Strong grade of structure, 10-20 mm, Angular blocky; Firm consistence; Slightly plastic; Normal plasticity; Few (2 - 10 %), Ferromanganiferous, Medium (2 -6 mm), Nodules; Very few (0 - 2 %), Gypseous, Coarse (6 - 20 mm), Concretions;

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1.8 - 2.1 m      Grey (10YR5/1-Moist); , 10YR64, 2-10% , 0-5mm, Faint; , 2-10% , 0-5mm, Faint; Heavy clay;  
Strong grade of structure, 10-20 mm, Angular blocky; Firm consistence; Slightly plastic; Normal  
plasticity;

**Morphological Notes**

**Observation Notes**

180-210CM MANY PROMINENT SLICKENSIDES:

**Site Notes**

BENTLEY

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**Laboratory Test Results:**

Depth	pH	1:5 EC	Exchangeable Cations			Exchangeable	CEC	ECEC	ESP
m		dS/m	Ca	Mg	K	Na Cmol (+)/kg	Acidity		%
0 - 0.1	7.8A	0.235A	28.7B	20.9	0.4	0.35			
0.1 - 0.2	8.7A	0.148A							
0.2 - 0.3	8.8A	0.148A							
0.3 - 0.6	9.1A	0.16A	27.3B	26	0.13	1.84			
0.6 - 0.9	9.4A	0.339A							
0.9 - 1.2	9A	1.25A	19B	27.7	0.17	8.1			
1.2 - 1.5	9A	1.55A							
1.5 - 1.8	8.9A	1.7A							
1.8 - 2.1	8.9A	1.45A							

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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_ZN	Total element - Zn(mg/kg) - HF/HClO <sub>4</sub> Digest
15A2_CA	Exchangeable bases (Ca <sup>2+</sup> ,Mg <sup>2+</sup> ,Na <sup>+</sup> ,K <sup>+</sup> ) - 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
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
9G_BSES	Available P (mg/kg) - Acid P - 0.005M H <sub>2</sub> SO <sub>4</sub> (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 (%)