

**Project Name:** Regional  
**Project Code:** REG **Site ID:** T170 **Observation ID:** 1  
**Agency Name:** CSIRO Division of Soils (QLD)

**Site Information**

<b>Desc. By:</b>	G.G. Murtha	<b>Locality:</b>	21.3KM east of Clarke Hills on Reedy Springs Road:
<b>Date Desc.:</b>	13/05/71	<b>Elevation:</b>	762 metres
<b>Map Ref.:</b>	Sheet No. : 7858 1:100000	<b>Rainfall:</b>	640
<b>Northing/Long.:</b>	144.633333333333	<b>Runoff:</b>	Rapid
<b>Easting/Lat.:</b>	-19.9	<b>Drainage:</b>	Well drained

**Geology**

<b>ExposureType:</b>	Undisturbed soil core	<b>Conf. Sub. is Parent. Mat.:</b>	No Data
<b>Geol. Ref.:</b>	Czn	<b>Substrate Material:</b>	Undisturbed soil core, 4.1 m deep,Basalt

**Land Form**

<b>Rel/Slope Class:</b>	Level plain <9m <1%	<b>Pattern Type:</b>	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):** Firm

**Erosion:**

**Soil Classification**

<b>Australian Soil Classification:</b>		<b>Mapping Unit:</b>	N/A
Haplic Mesotrophic Brown Ferrosol		<b>Principal Profile Form:</b>	Gn3.2
<b>ASC Confidence:</b>		<b>Great Soil Group:</b>	N/A

All necessary analytical data are available.

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

**Vegetation:** Low Strata - Tussock grass, 0.51-1m, Mid-dense. \*Species includes - None recorded  
Tall Strata - Tree, 6.01-12m, Sparse. \*Species includes - Eucalyptus crebra

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

**Profile Morphology**

A1	0 - 0.1 m	Dark brown (7.5YR3/2-Moist); ; Loam (Heavy); Weak grade of structure, 2-5 mm, Angular blocky; Dry; Very firm consistence; 2-10%, fine gravelly, 2-6mm, Quartz, coarse fragments; Very few (0 - 2 %), Ferromanganiferous, Fine (0 - 2 mm), Nodules; Gradual change to -
A3	0.1 - 0.2 m	Dark reddish brown (5YR3/4-Moist); ; Loam (Heavy); Weak grade of structure, 2-5 mm, Angular blocky; Moist; Weak consistence; Very few (0 - 2 %), Ferromanganiferous, Fine (0 - 2 mm), Nodules; Gradual change to -
B1	0.2 - 0.3 m	Strong brown (7.5YR4/6-Moist); ; Clay loam (Heavy); Moderate grade of structure, 2-5 mm, Angular blocky; Moist; Weak consistence; Very few (0 - 2 %), Ferromanganiferous, Medium (2 - 6 mm), Nodules; Gradual change to -
B21	0.3 - 0.45 m	Strong brown (7.5YR4/6-Moist); ; Light medium clay; Moderate grade of structure, 2-5 mm, Angular blocky; Moist; Weak consistence; Few (2 - 10 %), Manganiferous, Coarse (6 - 20 mm), Concretions;
B21	0.45 - 0.6 m	Strong brown (7.5YR4/6-Moist); ; Medium clay; Moderate grade of structure, 2-5 mm, Angular blocky; Moist; Weak consistence; 2-10%, fine gravelly, 2-6mm, Quartz, coarse fragments; Few (2 - 10 %), Manganiferous, , Concretions;
B21	0.6 - 0.9 m	Strong brown (7.5YR4/6-Moist); ; Medium clay; Moderate grade of structure, 2-5 mm, Angular blocky; Moist; Weak consistence; 2-10%, fine gravelly, 2-6mm, Quartz, coarse fragments; Few (2 - 10 %), Manganiferous, , Concretions; Diffuse change to -
B22	0.9 - 1.2 m	Yellowish red (5YR4/6-Moist); , 10YR54, 2-10% , 5-15mm, Distinct; , 2-10% , 5-15mm, Distinct; Medium heavy clay; Strong grade of structure, 5-10 mm, Angular blocky; Moist; Very firm consistence; Very few (0 - 2 %), Ferromanganiferous, Medium (2 -6 mm), Nodules;
B22	1.2 - 1.5 m	Dark red (2.5YR3/6-Moist); , 10YR54, 2-10% , 5-15mm, Distinct; , 2-10% , 5-15mm, Distinct; Medium heavy clay; Strong grade of structure, 5-10 mm, Angular blocky; Moist; Firm consistence; Very few (0 - 2 %), Ferromanganiferous, Medium (2 -6 mm), Nodules;
	1.5 - 1.8 m	Dark red (2.5YR3/6-Moist); , 10YR54, 2-10% , 5-15mm, Distinct; , 2-10% , 5-15mm, Distinct; Medium heavy clay; Strong grade of structure, 5-10 mm, Angular blocky; Firm consistence; Very few (0 - 2 %), Ferromanganiferous, Medium (2 -6 mm), Nodules;

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	1.8 - 2.1 m	Dark red (2.5YR3/8-Moist); ; Heavy clay; Strong grade of structure, 2-5 mm, Angular blocky; Very firm consistence;
	2.1 - 2.5 m	Dark red (10R3/6-Moist); ; Heavy clay; Strong grade of structure, 2-5 mm, Angular blocky; Very firm consistence;
	2.5 - 3 m	Dark red (10R3/6-Moist); ; Heavy clay; Strong grade of structure, 2-5 mm, Angular blocky; Very firm consistence;
BC	3 - 3.5 m	Dark red (2.5YR3/6-Moist); ; Medium clay; , Angular blocky; Moist; Very firm consistence;
	3.5 - 3.85 m	Dark red (2.5YR3/6-Moist); ; Medium clay; , Angular blocky; Weak consistence;
	3.85 - 4.1 m	; Weak consistence;

**Morphological Notes**

Weathered basalt with some pockets of DR clay:

**Observation Notes**

300-385CM MUCH SOFT WEATHERED BASALT:

**Site Notes**

CLARKE HILLS

**Observation ID: 1**

**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	6.7A	0.047A	9.6B	3.7	1.1	0.04			
0.1 - 0.2	6.5A	0.053A	7.9B	2.8	1	0.05			
0.2 - 0.3	6.6A	0.059A	7.8B	2.8	0.94	0.04			
0.3 - 0.45	6.6A	0.044A	6B	2.5	0.84	0.09			
0.45 - 0.6	6.7A	0.059A							
0.6 - 0.9	6.7A	0.044A	5.2B	2.2	0.64	0.08			
0.9 - 1.2	6.8A	0.047A	4.6B	2.4	0.52	0.05			
1.2 - 1.5	6.7A	0.053A							
1.5 - 1.8	6.7A	0.044A	5.2B	2.9	0.56	0.08			
1.8 - 2.1	6.8A	0.053A	6B	3.9	0.54	0.06			
2.1 - 2.5	6.8A	0.047A							
2.5 - 3	7.1A	0.047A							
3 - 3.5		0.047A							
3.5 - 3.85		0.047A							
3.85 - 4.1		0.047A							

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2.5 - 3  
3 - 3.5  
3.5 - 3.85  
3.85 - 4.1

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**Laboratory Analyses Completed for this profile**

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_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
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
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 (%)