**Project Name:** Regional

**Project Code:** Site ID: Observation ID: 1 REG **T78** 

**Agency Name: CSIRO Division of Soils (QLD)** 

**Site Information** 

Desc. By: R.F. Isbell Locality: 4.8KM along Virginia Park Road from Townsville-

Charters Towers Highway:

Date Desc.: 20/09/68 Elevation: 274 metres

Sheet No. : 8258 1:100000 Map Ref.: Rainfall: 635

Northing/Long.: Moderately rapid 146.529166666667 Runoff: Easting/Lat.: -19.9125 Drainage: Moderately well drained

Geology

ExposureType: Undisturbed soil core Conf. Sub. is Parent. Mat.: No Data

Geol. Ref.: **Substrate Material:** Auger boring, 2.7 m deep, Granodiorite

**Land Form** 

Rel/Slope Class: Gently undulating rises 9-30m Pattern Type: Rises

1-3%

Morph. Type: Crest Relief: 30 metres Gently inclined Hillcrest Slope Category: Elem. Type: No Data Slope: 0 % Aspect:

Surface Soil Condition (dry):

**Erosion:** 

**Soil Classification** 

N/A **Australian Soil Classification: Mapping Unit:** Haplic Eutrophic Red Chromosol **Principal Profile Form:** Dr2.12

**ASC Confidence: Great Soil Group:** Non-calcic brown

All necessary analytical data are available. soil

**<u>Site Disturbance:</u>** No effective disturbance other than grazing by hoofed animals

**Vegetation:** 

Low Strata - Tussock grass, 0.51-1m, Mid-dense. \*Species includes - Heteropogon contortus, Bothriochloa

ewartiana

Tall Strata - Tree, 6.01-12m, Sparse. \*Species includes - Eucalyptus drepanophylla, Eucalyptus dichromophloia

Surface Coarse Fragments: No surface coarse fragments

consistence;

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A1	0 - 0.1 m	Dark reddish brown (5YR3/4-Moist); Reddish brown (5YR4/4-Dry); ; Sandy loam (Heavy); Massive grade of structure; Dry; Strong consistence; 0-2%, fine gravelly, 2-6mm, Sand, coarse fragments; Few, very fine (0-1mm) roots;
A1	0.1 - 0.15 m	Dark reddish brown (5YR3/4-Moist); Reddish brown (5YR4/4-Dry); ; Sandy loam (Heavy); Massive grade of structure; Dry; Strong consistence; 0-2%, fine gravelly, 2-6mm, Sand, coarse fragments; Few, very fine (0-1mm) roots; Abrupt change to -
B21	0.15 - 0.2 m	Dark red (2.5YR3/5-Moist); Dark red (2.5YR3/5-Dry); ; Medium heavy clay; Moderate grade of structure, 20-50 mm, Angular blocky; Weak grade of structure, 20-50 mm, Prismatic; Medium, (5 - 10) mm crack; Dry; Very strong consistence; 0-2%, fine gravelly, 2-6mm, Sand, coarse fragments;
B22	0.2 - 0.3 m	Dark red (2.5YR3/5-Moist); Dark red (2.5YR3/5-Dry); ; Heavy clay; Moderate grade of structure, 20-50 mm, Angular blocky; Weak grade of structure, 20-50 mm, Prismatic; Medium, (5 - 10) mm crack; Moderately moist; Very strong consistence; Gradual change to -
B23	0.3 - 0.4 m	Dark red (2.5YR3/6-Moist); ; Heavy clay; Moderate grade of structure, 20-50 mm, Angular blocky; Weak grade of structure, 20-50 mm, Prismatic; Moderately moist; Very firm consistence; 0-2%, Sand, coarse fragments; Gradual change to -
ВЗ	0.4 - 0.6 m	Dark red (2.5YR3/8-Moist); ; Medium clay; Weak grade of structure, 20-50 mm, Angular blocky; Moderately moist; Very firm consistence; 2-10%, Sand, coarse fragments; Gradual change to -
ВС	0.6 - 0.7 m	Yellowish red (5YR4/6-Moist); ; Sandy medium clay; Weak grade of structure, 20-50 mm, Angular blocky; Massive grade of structure; Moderately moist; Very firm consistence; 10-20%, Sand, coarse fragments; Clear change to -
С	0.7 - 0.9 m	Yellowish red (5YR4/6-Moist); , 10YR62; Sandy clay loam; Massive grade of structure; Moderately moist; Very firm consistence; 20-50%, Sand, coarse fragments; Gradual change to -
	0.9 - 1.2 m	Yellowish red (5YR4/6-Moist); , 10YR62; Sandy clay loam; Massive grade of structure; Firm

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1.2 - 1.5 m	Yellowish red (5YR4/6-Moist); , 10YR62; Sandy clay loam; Massive grade of structure; Firm consistence;
1.5 - 1.8 m	Yellowish red (5YR4/6-Moist); , 10YR62; Sandy clay loam; Massive grade of structure; Firm consistence; Few, fine (1-2mm) roots;
1.8 - 2.1 m	Reddish brown (5YR4/4-Moist); ; Sandy clay loam; Massive grade of structure; Firm consistence; Few, fine (1-2mm) roots;
2.1 - 2.4 m	Reddish brown (5YR4/4-Moist); ; Sandy clay loam; Massive grade of structure; Firm
2.4 - 2.7 m	Reddish brown (5YR4/4-Moist); ; Sandy clay loam; Massive grade of structure; Very firm

## **Morphological Notes**

consistence;

## **Observation Notes**

WEAK PLATY STRUCTURE IN TOP 2CM:WEATHERED ROCK FABRIC INCREASING FROM 30CM:

## **Site Notes**

VIRGINIA PARK

Site ID: T78 Observation ID: 1

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CSIRO Division of Soils (QLD)

Depth	рН	1:5 EC		angeable			Exchange		c	ECEC	ESP
m		dS/m	Ca M	lg	K	Na Cmol (+	Acidity -)/kg	у			%
0 - 0.1 0.1 - 0.15 0.15 - 0.2 0.2 - 0.3 0.3 - 0.4 0.4 - 0.6 0.6 - 0.7 0.7 - 0.9 0.9 - 1.2 1.2 - 1.5 1.5 - 1.8 1.8 - 2.1	6.4A 6.4A 6.5A 6.5A 6.6A 6.9A 7.9A 8.5A 7.7A 8.5A 8.6A	0.056A 0.029A 0.032A 0.032A 0.026A 0.029A 0.11A 0.101A 0.044A 0.035A 0.077A	4.4B 4.4B 9.6B 11.1B 11.2B 12.5B	1.6 1.6 4.6 6.3 5.7 6	0.31 0.3 0.39 0.35 0.25 0.19	0.26 0.3 0.41 0.52 0.48 0.54	, r.g	1 1 1 1	7C 7C 4C 8C 9C 7C		3.71 4.29 2.93 2.89 2.53 3.18
2.1 - 2.4	7.3A	0.026A									
2.4 - 2.7	7.1A	0.029A									
Depth	CaCO3	Organic C	Avail. P	Total P	Total N	Tota K	Den	ulk Isity GV	Particle CS	FS	nalysis Silt Clay
m	%	%	mg/kg	%	%	%	Mg/	m3		%	
0 - 0.1 0.1 - 0.15 0.15 - 0.2 0.2 - 0.3 0.3 - 0.4 0.4 - 0.6 0.6 - 0.7 0.7 - 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	0.66A 1.84A 1.54A <0.01A 0.53A 1.75A	\ \ \	9B 4B 4B 2B 3B 7B 50B 225B 450B 395B 425B 315B 360B 360B	0.009A 0.004A 0.007A 0.011A 0.011A 0.008A 0.019A 0.041A 0.063A 0.056A 0.044A 0.048A 0.058A	0.09 0.09 0.09	5A 1.2 6A 0.9 5A 0.7 0.7 0.9 1.2 1.2 1.3 1.1	6A 8A 4A	<; <; ( <;	2 20E 0 15E 2 15E	31 19 10 10 8 0 14	10 15 10 16 8 52 7 67 5 70 10 49 11 31
Depth	COLE							K unsat			
m		Sat.	0.05 Bar	0.1 Bar g/9	0.5 Bar g - m3/m3	1 Bar 3	5 Bar	15 Bar	mm	/h	mm/h

<sup>0 - 0.1</sup> 0.1 - 0.15 0.15 - 0.2

<sup>0.2 - 0.3</sup> 0.3 - 0.4 0.4 - 0.6 0.6 - 0.7 0.7 - 0.9 0.9 - 1.2

<sup>1.2 - 1.5</sup> 1.5 - 1.8 1.8 - 2.1 2.1 - 2.4

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2.4 - 2.7

**Project Name:** Regional

**Project Code:** REG Site ID: Observation ID: 1 T78

**CSIRO Division of Soils (QLD) Agency Name:** 

## **Laboratory Analyses Completed for this profile**

10A1 Total sulfur - X-ray fluorescence

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

Total potassium - X-ray fluorescence 17A1

19A1 Carbonates - rapid titration Air-dry moisture content 2A1 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 H2SO4 (BSES) Exchange Capacity - Minerology

MIN\_EC

P10\_GRAV Gravel (%)

P10\_PB\_C Clay (%) - Plummet balance P10 PB CS Coarse sand (%) - Plummet balance P10\_PB\_FS P10\_PB\_Z Fine sand (%) - Plummet balance Silt (%) - Plummet balance

XRD\_C\_II Illite - X-Ray Diffraction K2O - X-Ray Diffraction or Clay Fraction (air dry)

XRD\_C\_K2O XRD\_C\_Ka Kaolin - X-Ray Diffraction XRD\_C\_St Smectite - X-Ray Diffraction