**Project Name:** Regional

**Project Code:** Site ID: T405 Observation ID: 1 REG

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

**Site Information** 

Desc. By: M.D. Laffan Locality: Southeren side Kennedy Highway:between

Hypipamee Crater National Park aand Herberton

Road turn-off:

Date Desc.: 17/10/84 Elevation: No Data Map Ref.: Sheet No.: 7963 1:100000 Rainfall: 1600 Northing/Long.: 145.476388888889 Runoff: No Data Drainage: Well drained Easting/Lat.: -17.447777777778

Geology

ExposureType: Undisturbed soil core Conf. Sub. is Parent. Mat.: No Data Geol. Ref.: **Substrate Material:** ы Rhyolite

**Land Form** 

Rel/Slope Class: Rolling hills 90-300m 10-32% Pattern Type: No Data Morph. Type: No Data Relief: No Data Elem. Type: Slope Category: No Data Hillslope 10 % Aspect: No Data Slope:

Surface Soil Condition (dry): Firm

**Erosion:** 

**Soil Classification** 

**Australian Soil Classification: Mapping Unit:** N/A Acidic Magnesic Red Dermosol **Principal Profile Form:** Gn3.14

**ASC Confidence: Great Soil Group:** Red podzolic soil

All necessary analytical data are available.

Site Disturbance: Limited clearing, for example selective logging

Vegetation:

Tall Strata - Tree, 12.01-20m, Closed or dense. \*Species includes - None Recorded

Surface Coarse Fragments: No surface coarse fragments

## Drofile Marabalass

<u>Profile</u>	<u>Morphology</u>	
AB	0 - 0.1 m	Brown (7.5YR4/4-Moist); ; Clay loam; Strong grade of structure, 5-10 mm, Subangular blocky; Strong grade of structure, <2 mm, Granular; Smooth-ped fabric; Moderately moist; Weak consistence; Field pH 5.5 (pH meter); Many, fine (1-2mm) roots; Clear, Wavy change to -
B1	0.1 - 0.2 m	Yellowish red (5YR4/6-Moist); ; Light clay (Light); Moderate grade of structure, 10-20 mm, Subangular blocky; Strong grade of structure, 2-5 mm, Subangular blocky; Smooth-ped fabric; Moderately moist; Weak consistence; Field pH 5.5 (pH meter); Common, fine (1-2mm) roots; Gradual, Smooth change to -
B21	0.2 - 0.3 m	Yellowish red (5YR4/6-Moist); ; Light clay; Moderate grade of structure, 20-50 mm, Angular blocky; Strong grade of structure, 2-5 mm, Subangular blocky; Smooth-ped fabric; Moderately moist; Weak consistence; Few cutans, <10% of ped faces or walls coated, faint; Field pH 5.8 (pH meter); Common, fine (1-2mm) roots; Gradual, Smooth change to -
B22	0.3 - 0.5 m	Red (2.5YR4/6-Moist); ; Light medium clay; Strong grade of structure, 20-50 mm, Angular blocky; Strong grade of structure, 2-5 mm, Subangular blocky; Smooth-ped fabric; Moist; Firm consistence; Common cutans, 10-50% of ped faces or walls coated, distinct; Field pH 5.5 (pH meter); Common, fine (1-2mm) roots; Gradual, Smooth change to -
B23	0.5 - 0.6 m	Dark red (2.5YR3/6-Moist); , 7.5YR56, 2-10% , 5-15mm, Distinct; , 2-10% , 5-15mm, Distinct; Medium heavy clay; Strong grade of structure, 20-50 mm, Angular blocky; Strong grade of structure, 2-5 mm, Angular blocky; Smooth-ped fabric; Moist; Very firm consistence; Common cutans, 10-50% of ped faces or walls coated, distinct; Field pH 5.5 (pH meter); Common, fine (1-2mm) roots;
B23	0.6 - 0.9 m	Dark red (2.5YR3/6-Moist); , 7.5YR56, 2-10% , 5-15mm, Distinct; , 2-10% , 5-15mm, Distinct; Medium heavy clay; Strong grade of structure, 20-50 mm, Angular blocky; Strong grade of structure, 2-5 mm, Angular blocky; Smooth-ned fabric; Moist: Very firm consistence; Common

structure, 2-5 mm, Angular blocky; Smooth-ped fabric; Moist; Very firm consistence; Common cutans, 10-50% of ped faces or walls coated, distinct; Field pH 5.5 (pH meter); Common, fine

(1-2mm) roots; Gradual, Smooth change to -

Projec	t Code:	Regional REG Site ID: T405 Observation ID: 1 CSIRO Division of Soils (QLD)
B24	0.9 - 1.2 m	Dark red (2.5YR3/6-Moist); , 7.5YR56, 2-10% , 15-30mm, Distinct; , 2-10% , 15-30mm, Distinct; Silty medium clay; Strong grade of structure, 20-50 mm, Angular blocky; Strong grade of structure, 2-5 mm, Angular blocky; Smooth-ped fabric; Moist; Very firm consistence; Common cutans, 10-50% of ped faces or walls coated, distinct; Field pH 5.5 (pH meter); Few, very fine (0-1mm) roots;
B24	1.2 - 1.5 m	Dark red (2.5YR3/6-Moist); , 7.5YR56, 2-10% , 15-30mm, Distinct; , 2-10% , 15-30mm, Distinct; Silty medium clay; Strong grade of structure, 20-50 mm, Angular blocky; Strong grade of structure, 2-5 mm, Angular blocky; Smooth-ped fabric; Moist; Very firm consistence; Common cutans, 10-50% of ped faces or walls coated, distinct; Field pH 5.5 (pH meter); Few, very fine (0-1mm) roots;
B24	1.5 - 1.8 m	Dark red (2.5YR3/6-Moist); , 7.5YR56, 2-10% , 15-30mm, Distinct; , 2-10% , 15-30mm, Distinct; Silty medium clay; Strong grade of structure, 20-50 mm, Angular blocky; Strong grade of structure, 2-5 mm, Angular blocky; Smooth-ped fabric; Moist; Very firm consistence; Common cutans, 10-50% of ped faces or walls coated, distinct; Field pH 5.5 (pH meter); Few, very fine (0-1mm) roots; Gradual, Smooth change to -
ВС	1.8 - 2.1 m	Red (10R4/6-Moist); , 7.5YR56, 0-2% , 0-5mm, Distinct; , 0-2% , 0-5mm, Distinct; Silty medium clay; Strong grade of structure, 20-50 mm, Angular blocky; Moderate grade of structure, 2-5 mm, Angular blocky; Smooth-ped fabric; Moist; Very firm consistence; Common cutans, 10-50% of ped faces or walls coated, distinct; Field pH 5.5 (pH meter); Few, very fine (0-1mm) roots;
ВС	2.1 - 2.4 m	Red (10R4/6-Moist); , 7.5YR56, 0-2% , 0-5mm, Distinct; , 0-2% , 0-5mm, Distinct; Silty medium clay; Strong grade of structure, 20-50 mm, Angular blocky; Moderate grade of structure, 2-5 mm, Angular blocky; Smooth-ped fabric; Moist; Very firm consistence; Common cutans, 10-50% of ped faces or walls coated, distinct; Field pH 5.5 (pH meter); Few, very fine (0-1mm) roots;
ВС	2.4 - 2.7 m	Red (10R4/6-Moist); , 7.5YR56, 0-2% , 0-5mm, Distinct; , 0-2% , 0-5mm, Distinct; Silty medium clay; Strong grade of structure, 20-50 mm, Angular blocky; Moderate grade of structure, 2-5 mm, Angular blocky; Smooth-ped fabric; Moist; Very firm consistence; Common cutans, 10-50% of ped faces or walls coated, distinct; Field pH 5.5 (pH meter); Few, very fine (0-1mm) roots;
ВС	2.7 - 2.95 m	Red (10R4/6-Moist); , 7.5YR56, 0-2% , 0-5mm, Distinct; , 0-2% , 0-5mm, Distinct; Silty medium clay; Strong grade of structure, 20-50 mm, Angular blocky; Moderate grade of structure, 2-5 mm, Angular blocky; Smooth-ped fabric; Moist; Very firm consistence; Common cutans, 10-50% of ped faces or walls coated, distinct; Field pH 5.5 (pH meter); Few, very fine (0-1mm) roots;

## **Morphological Notes**

# Observation Notes

PARENT MATERIAL VERY STRONGLY WEATHERED RHYOLITE:

## Site Notes

HYPIPMAEE CRAT

Observation ID: 1

Project Name: Project Code: Agency Name: Regional REG Site ID: T405 CSIRO Division of Soils (QLD)

Depth	рН	1:5 EC C		hangeable	Cations K		Exchangeable	CEC	ECEC	ESP
m		dS/m	a	Mg	ĸ	Na Cmol (+	Acidity +)/kg			%
0 - 0.1	4.2D 4.9A	0.107A	1.7H	1.5	0.26	0.08	2.2F	3.2A 15C	5.7F	2.50 0.53
0.1 - 0.2	5.1A	0.039A								
0.2 - 0.3	4.5D	0.03A	0.11H	0.28	0.06	0.05	0.9F	1.7A	1.4F	2.94
00 05	5.1A	0.0464	0.0011	0.00	0.00	0.04	4.005	5C	4 45	1.00
0.3 - 0.5	4.4D 5.1A	0.016A	0.02H	0.22	0.02	0.04	1.08F	1.9A 4C	1.4F	2.11 1.00
0.5 - 0.6	5.1A 5.1A	0.016A						40		1.00
0.6 - 0.9	4.3D		0.02H	0.43	0.02	0.04	1.34F	1.9A	1.9F	2.11
0.0 0.0	5A	0.0	0.02	0	0.02	0.0.		4C		1.00
0.9 - 1.2	4.9A	0.015A								
1.2 - 1.5	4.2D	0.014A <	<0.02H	0.2	0.04	0.02	2.32F	1.4A	2.6F	1.43
	4.9A							3C		0.67
1.5 - 1.8	4.9A	0.013A								
1.8 - 2.1	4.9A	0.012A								
2.1 - 2.4	4.9A	0.012A								
2.4 - 2.7	4.9A	0.012A								
2.7 - 2.95	4.9A	0.012A								
Depth	CaCO3	Organic	Avail.	Total	Total	Tota	l Bulk	Particle	Size	Analysis

Depth m	CaCO3	Organic C %	Avail. P mg/kg	Total P %	Total N %	Total K %	Bulk Density Mg/m3	Pa GV	article CS	Size A FS %	Analysis Silt	s Clay
0 - 0.1		5.81C	10B	0.07A	0.34A	0.06A		0	16A	33	10	42
0.1 - 0.2		3.51C						0	16A	33	11	41
0.2 - 0.3		0.91C						1	16A	33	9	42
0.3 - 0.5		0.44C	4B	0.031A		0.06A		0	15A	32	10	44
0.5 - 0.6												
0.6 - 0.9		0.44C		0.03A		0.05A		0	13A	21	16	51
0.9 - 1.2								0	13A	19	18	49
1.2 - 1.5				0.036A		0.08A		0	13A	20	21	47
1.5 - 1.8												
1.8 - 2.1				0.025A		0.07A		0	17A	20	22	41
2.1 - 2.4												
2.4 - 2.7				0.047A		0.09A		0	15A	23	9	53
2.7 - 2.95												

Depth	COLE	Gravimetric/Volumetric Water Contents								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

<sup>0 - 0.1</sup> 0.1 - 0.2 0.2 - 0.3 0.3 - 0.5 0.5 - 0.6 0.6 - 0.9 0.9 - 1.2 1.2 - 1.5 1.5 - 1.8

Project Name: Project Code: Agency Name:

Regional REG Site ID: T405 CSIRO Division of Soils (QLD) Observation ID: 1

2.1 - 2.4 2.4 - 2.7 2.7 - 2.95

**Project Name:** Regional

T405 Observation ID: 1 **Project Code:** REG Site ID:

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

#### **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 12\_HF\_MN Total element - Fe(%) - HF/HClO4 Digest

Total element - Mn(mg/kg) - HF/HCIO4 Digest Total element - Zn(mg/kg) - HF/HClO4 Digest 12\_HF\_ZN

13C1\_FE Citrate/dithionite-extractable iron, aluminium, Manganese and Silicon

15A2\_CEC Exchangeable bases- 1M ammonium chloride at pH 7.0, pretreatment for soluble salts 15D1\_CEC 15E1\_CA CEC - 1M ammonium acetate at pH 7.0, pretreatment for soluble salts; manual leach

Exchangeable bases (Ca2+,Mg2+,Na+,K+) by compulsive exchange, no pretreatment for soluble 15E1\_K Exchangeable bases, CEC and AEC by compulsive exchange, no pretreatment for soluble salts 15E1\_MG 15E1\_NA Exchangeable bases, CEC and AEC by compulsive exchange, no pretreatment for soluble salts Exchangeable bases, CEC and AEC by compulsive exchange, no 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

Effective CEC 15J1

17A1 Total potassium - X-ray fluorescence

2A1 Air-dry moisture content EC of 1:5 soil/water extract 3A1 4A1 pH of 1:5 soil/water suspension

4C1 pH of 1:5 soil/1M potassium chloride extract - direct Chloride - 1:5 soil/water extract, automated colour 5A2

Total organic carbon - high frequency induction furnace, infrared 6B3

7A2 Total nitrogen - semimicro Kjeldahl, automated colour

Total phosphorus - X-ray fluorescence 9A1

9G\_BSES Available P (mg/kg) - Acid P - 0.005M H2SO4 (BSES)

9H1 Phosphate retention

P10\_CF\_C Clay (%) - Coventry and Fett pipette method

P10\_CF\_CS P10\_CF\_FS P10\_CF\_Z Coarse sand (%) - Coventry and Fett pipette method Fine sand (%) - Coventry and Fett pipette method Silt (%) - Coventry and Fett pipette method

P10\_GRAV Gravel (%)